



Environmental Compliance and Analysis Services (ECAS)

Environmental Assessment - Final **NASIC and USAFAM Field Training Activities, WPAFB, Ohio**

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**FINDING OF NO SIGNIFICANT IMPACT/
FINDING OF NO PRACTICABLE ALTERNATIVE FOR
NASIC and USAFSAM TRAINING ACTIVITIES
WRIGHT-PATTERSON AFB, OHIO**

Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] 1500-1508), Department of Defense Directive 6050.1 and Air Force Regulation 32 CFR Part 989, the 88th Civil Engineer Directorate, Asset Management Division (88 ABW/CEA) has prepared an Environmental Assessment (EA) to identify and assess potential effects of the operation and implementation of training operations to support the National Air and Space Intelligence Center (NASIC) and the U.S. Air Force School of Aerospace Medicine (USAFSAM) in their respective missions at Wright-Patterson Air Force Base (WPAFB), Ohio. This EA is hereby incorporated by reference into this finding. In addition, the EA prepared in March, 2008, *Environmental Assessment for BRAC Facilities and Remote Field Training Site* is incorporated by reference. In addition to the primary uses of this facility by NASIC and USAFSAM, other military and civilian uses of this facility will include interim Explosives Ordnance Disposal (EOD) training and Military Working Dog training.

Purpose and Need

The 2005 Base Realignment and Closure (BRAC) Commission mandated the realignment of several Department of Defense (DoD) missions with similar focus to Wright-Patterson Air Force Base (WPAFB), Ohio. Included in the actions identified in the 2005 BRAC Final Report was the realignment of the USAFSAM Training, Education, and Consultation missions previously located at Brooks City Base, Texas to WPAFB. Among the missions relocated to WPAFB is the USAFSAM Aircraft Mishap Investigation (AMI) training.

As a function of this realignment, establishment of a remote field training facility is necessary to accommodate formal training required by all Air Force Medical Service personnel assigned to the USAFSAM. In March 2008, WPAFB completed an EA titled, *Environmental Assessment for BRAC Facilities and Remote Field Training Site*, which evaluated the impacts of training at the Warfighter Training Center (formerly known as the Prime BEEF Training Area). As a result of the assessment, a Finding of No Significant Impact (FONSI) and Finding of No Practical Alternative (FONPA) were previously prepared for the Prime BEEF location. One of the field training requirements of the USAFSAM is to conduct aircraft crash investigations. Currently, there are cannibalized aircraft located at the National Air and Space Intelligence Center (NASIC) Ground Truth Compound site {formerly the Aircraft Battle Damage and Repair Facility (ABDR)}. After the March 2008 EA was completed, USAFSAM became aware of the aircraft at the NASIC site and made a request to WPAFB to conduct their aircraft crash investigation training classes at the NASIC site.

In addition to the USAFSAM mission objective, NASIC currently conducts ground truth training operations at the NASIC Ground Truth Compound site. These activities began subsequent to transfer of responsibility of the former ABDR site to NASIC. No environmental assessment was completed prior to initiating NASIC training activities at the NASIC Ground Truth Compound subsequent to the transfer. When USAFSAM requested to use the NASIC site, 88 ABW/CEA determined it was necessary to perform an EA to evaluate the potential impacts from the existing NASIC activities combined with the proposed training activities and other training as defined

below. Collectively, these activities are referred to as the Proposed Action for the purpose of this EA.

Description of Proposed Action

This EA evaluates the impacts of establishing USAFSAM and NASIC training activities at the NASIC Ground Truth Compound. Training at the compound will utilize existing features inclusive of partial airplane frames/bodies which would be located on-site and which are currently used for unrelated training activities.

Portable generators will be brought on site for USAFSAM and NASIC training activities. No permanent utilities will be required for completion of the training objectives.

NASIC scheduled training sessions are expected to occur over a consecutive five day period twice per year. USAFSAM training events are expected to occur as one to two day courses scheduled twice per month each year. Additional training may be conducted as needed to satisfy mission objectives.

Incidental training may be conducted at the facility in conjunction with the Proposed Action. These activities would include off-range EOD training which was categorically excluded in accordance with 32 CFR 989.13. This training would occur two times per month, involving items such as blasting caps, detonating cord and 12 gauge shotgun shells. The maximum explosive limits are provided in EOD Operating Instruction 32-2 (Appendix B). Additional activities include Military Working Dog training using limited quantities of Class 1.1 explosives (< 3 lbs, which would not be detonated) and controlled substances for the purpose of training military dogs.

Description of the No-Action Alternative

Under the No Action Alternative, the proposed USAFSAM training activities would not be conducted at the NASIC Ground Truth Compound. Rather, AMI activities would be conducted at the Warfighter Training Center (WTC), which was previously evaluated and determined to cause no significant impact as identified in the March 2008 EA. Should no action be implemented, the existing NASIC training activities will cease until a new site can be located.

Environmental Consequences

The Proposed Action at the NASIC Ground Truth Compound would have no environmental impacts on Land Use (EA Section 4.5), Cultural Resources (EA Section 4.7), Health and Safety (EA Section 4.10), Utilities (EA Section 4.13 and Environmental Justice (EA Section 4.14). The No Action Alternative for the Proposed Action covered under this EA would have no significant environmental impact on any natural or manmade resources. Considerations for other minor impacts are summarized as follow:

Natural Resources (EA Section 4.2.): Under the Proposed Action minor adverse impacts to wildlife could be expected. Noise and human presence from training activities will likely result in minor displacement of wildlife species in the habitats contiguous to the project area. This effect should be short term and relatively insignificant, as wildlife species in the vicinity are likely already conditioned to the presence of humans and military operations, and ample suitable habitat exists in the local area to support the displaced species. No known threatened or endangered species have been identified within the project location. No wetlands have been identified on or near the project location.

Water Resources (EA Section 4.3): Under the Proposed Action there would be no direct impact to surface waters as the property is relatively flat and well vegetated. No significant construction or soil disturbance is anticipated as a result of the project. The proposed action would consist of Aircraft Crash Investigation Training, which includes an impact trench site. If water is encountered while digging the trench, excavation would stop immediately. The trench would be covered when not in use. The site would be monitored to ensure the trench does not fill with water when not in use.

While the site is located within the 10 and 100 year flood plain, the open nature of the proposed structure will not adversely affect the storage capacity of the floodplain. The Miami Conservancy District has been consulted and does not object to this location for the proposed activities (Appendix A).

Hazardous Materials/Waste, Stored Fuels and IRP Sites (EA Section 4.4): With proper housekeeping and maintenance, the Proposed Action would not generate hazardous waste at this location. Clean-up of materials subsequent to an accidental spill during fueling activities would minimize the potential for impact from training operations. The Proposed Action for training activities would have no direct impacts to IRP sites.

Soil Resources (EA Section 4.6): Under the Proposed Action there would be no impacts to soil resources, the property is well vegetated and the topography is relatively flat.

Air Quality (EA Section 4.8): Under the Proposed Action there would be minor short-term impacts to air quality during operation of the mobile USAFSAM and NASIC generators. In addition, there would be minor, short-term emissions from vehicles that would travel to the area for training. Operation of the facility on the prescribed schedule will meet the requirements of a De-minimus emissions source.

Noise (EA Section 4.9): Under the Proposed Action there would be minor impacts on ambient noise from the training activities. Impacts would be short term and minor. EOD training would occur two times per month, involving items such as blasting caps, detonating cord and 12 gauge shotgun shells, resulting in intermittent increase in noise near the proposed action. Maximum explosive limits are listed in EOD Operating Instruction 32-2 (Appendix B). The Military Working Dog training would use less than three pounds of Class 1.1 explosives, which would not be detonated, resulting in no noise impact.

The proposed location for USAFSAM/NASIC training activities is situated adjacent to the active airfield. Under the Air Installation Compatible Use Zone, this alternative location falls under 80dB-A DNL contour, as determined in the 1995 study. Based on the discussion in Sections 3.9 and 4.9 of the EA, minor impacts can be expected in this area as a result of intermittent use of portable generators for NASIC activities. The expected noise levels are consistent with land use in the area and the affected populations are on-base personnel involved in military activities. The potential impact, therefore, is considered to be negligible.

Socioeconomic Resources (EA Section 4.11): Under the Proposed Action, a positive impact is expected when compared to the No-Action Alternative. Currently, airplane bodies are located within the fenced area of the NASIC Ground Truth Compound. This poses a potential economic benefit, as implementation of the No Action Alternative would require that the USAFSAM airplane shells be re-located from Brooks City Base to WPAFB. Use of the NASIC Ground Truth Compound for training activities would obviate the need for capital expense and labor to provide adequate training structures (airplane bodies).

Transportation/Traffic (EA Section 4.12): Under the Proposed Action vehicular traffic to the NASIC Ground Truth Compound for training would be intermittent due to the limited number of training events which would occur each year. Therefore impacts are not expected. Incidental training activities associated with EOD training activities may require transportation of hazardous materials on roadways within the perimeter of WPAFB, which would not require any control measures.

Cumulative Impacts (EA Section 4.18): The cumulative effects of the Proposed Action when added to other current and reasonably foreseeable future actions were found to be insignificant. Location of the USAFSAM training activities at the NASIC Ground Truth Compound would have a positive impact by removing the need of expenditure of financial and human resources to transport aircraft training fuselages to WPAFB.

Public Notice

A public notice was posted in the *Dayton Daily News* and *Skywriter* (WPAFB newspaper) on 18 Sep 09. The comment period was held from 18 Sep 09, until 18 Oct 09. No public comments were received.

Finding of No Significant Impact (FONSI)

The Proposed Action is to conduct USAFSAM and NASIC training activities at the NASIC Ground Truth Compound site in order to properly prepare personnel and support the objective of readiness for field conditions. Under the No Action Alternative, no improvements would be made at the NASIC Ground Truth Compound, and existing NASIC training activities would continue at the NASIC Ground Truth Compound. USAFSAM training would be conducted at the Warfighter Training Center as previously evaluated in the *Environmental Assessment for BRAC Facilities and Remote Field Training Site, March 2008*.

Based upon my review of the facts and analysis contained in the EA, which is hereby incorporated by reference, I conclude that the Proposed Action and the No Action Alternative will not have a significant impact on the natural or human environment. An environmental impact statement is not required for this action. This analysis fulfills the requirements of the NEPA, the President's Council on Environmental Quality regulations, and 32 CFR 989.

Finding of No Practicable Alternative (FONPA)

Taking the above information into consideration, pursuant to Executive Order (EO) 11988, *Floodplain Management*, and the authority delegated by Secretary of the Air Force Order 791.1, I find there is no practicable alternative to conducting the Proposed Action in the floodplain, and that the Proposed Action includes all practicable measures to minimize harm to the environment. This finding fulfills both the requirements of the referenced EO and the Air Force Environmental Impact Analysis Process (32 CFR 989.14) for a Finding of No Practicable Alternative.



PAUL A. PARKER, SES
Director of Communications, Installations
and Mission Support

Date: 6 June 2011

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1.0 PURPOSE AND NEED FOR ACTION

1.1 PROJECT DESCRIPTION

The 2005 Base Realignment and Closure (BRAC) Commission mandated the realignment of several Department of Defense (DoD) missions with similar focus to Wright-Patterson Air Force Base (WPAFB), Ohio. Included in the actions identified in the 2005 BRAC Final Report was the realignment of the U.S. Air Force School of Aerospace Medicine (USAFSAM) Training, Education, and Consultation missions previously located at Brooks City Base, Texas to WPAFB. Among the missions relocated to WPAFB is the Aircraft Mishap Investigation training.

As a function of this realignment, establishment of a remote field training facility is necessary to accommodate formal training required by all USAFSAM personnel. In March 2008, WPAFB completed an environmental assessment (EA) titled, *Environmental Assessment for BRAC Facilities and Remote Field Training Site*, which evaluated the impacts of the Expeditionary Medical Support (EMEDS) training at the Prime BEEF Training Area (now called the Warfighter Training Center). As a result of the assessment, a Finding of No Significant Impact (FONSI) and Finding of No Practical Alternative (FONPA) were previously prepared for the Warfighter Training Center (WTC) location. One of the field training requirements of the EMEDS Unit is to conduct aircraft crash investigations. Currently, there are cannibalized aircraft located at the National Air and Space Intelligence Center (NASIC) Ground Truth Compound site (formerly the Aircraft Battle Damage and Repair Facility). After the March 2008 EA was completed, USAFSAM became aware of the aircraft at the NASIC site and made a request to WPAFB to conduct their aircraft crash investigation training classes at the NASIC site.

In addition to the USAFSAM mission objective, NASIC currently conducts ground truth training operations at the NASIC Ground Truth Compound site. These activities began subsequent to transfer of responsibility of the former Aircraft Battle Damage and Repair (ABDR) site to NASIC. No environmental assessment was completed prior to initiating NASIC training activities at the transferred site which is now known as the NASIC Ground Truth Compound. When USAFSAM requested to use the NASIC site for EMEDS training, 88 ABW/CEA determined it was necessary to perform an EA to evaluate the potential impacts from the existing NASIC activities combined with the proposed AMI training activities. Collectively, these activities are referred to as the Proposed Action for the purposes of this EA.

This EA has been performed in accordance with the National Environmental Policy Act (NEPA); 40 CFR 1500; the Council on Environmental Quality (CEQ) regulations implementing NEPA, and the USAF Environmental Impact Analysis Process (EIAP) (32 FR Part 989).

Tetra Tech, Inc. (Tetra Tech) has subcontracted with CTI and Associates, Inc. (CTI) and Natural Resources Consulting, Inc. (NRC) to provide specialized services to adequately identify and evaluate the environmental issues surrounding the NASIC Ground Truth Compound (Figure 1.1). This EA will evaluate the proposed NASIC and USAFSAM field training activities.

The Proposed Action includes mobilization of portable generators for operation of lights and other necessary equipment, and completion of training exercises critical to the respective missions of USAFSAM and NASIC. With the exception of fuels, no chemicals are reportedly planned for use during training exercises. No fires or detonations are planned during the exercises as reported by WPAFB personnel. The training will be conducted in at the proposed project location within the 3.7-acre compound.

Other training related activities may also be conducted at this location. Such incidental activities include off-range EOD training conducted under EOD Operating Instruction 32-2 (Appendix E). These EOD activities have been authorized under a Categorical Exclusion (CATEX), and the completed AF IMT 813 form is attached in Appendix E.

Additional activities may include Military Dog Training for explosives and controlled substances. These activities will be conducted in accordance with 88 SFSOI 31-202 (Appendix F). Civilian law enforcement agencies may also support Military Dog Training at the site provided the Memorandum of Understanding (MOU) included in Appendix F is executed prior to the training activities.

These additional activities are outlined in Sections 4.4, 4.10 and 4.12 of this EA and are considered incidental to the Proposed Action and not expected to pose potential for environmental impact.

1.2 DECISION TO BE MADE

The purpose of this EA is to analyze the potential environmental impacts of the Proposed Action and its alternatives (including the No Action Alternative). Based on the evaluation in this EA, a determination would be made as to whether there are significant environmental impacts expected from the Proposed Action. The evaluation in this EA could result in a Finding of No Significant Impact and a Finding of No

Practicable Alternative (FONSI/FONPA) if environmental impacts are not significant; in the determination that an Environmental Impact Statement (EIS) must be prepared if environmental impacts are potentially significant; or in the selection of the no action alternative in which case NASIC training activities would halt until a new location could be determined and USAFSAM would use the site described in the previously referenced EA. This EA provides the decision maker and the public with information required to understand the short-term and long-term consequences of the Proposed Action and the No Action Alternative.

1.3 SCOPE OF ENVIRONMENTAL ANALYSIS

The scope of this EA was defined in the Statement of Work issued June 9, 2008 and was developed in order to include relevant environmental considerations associated with potential impacts arising from the development and operation of an USAFSAM/NASIC Training Facility. This review has been conducted in accordance with the requirements of Parts 1500 – 1508 of the NEPA (42 U.S.C. 4321, et seq.) and includes a review of conditions, potential impacts and possible control measures affecting Natural Resources, Water Resources, Hazardous Materials and Wastes, Stored Fuels, the Installation Restoration Program, Land Uses, Soils, Cultural Resources, Air Quality, Noise, Health and Safety, Socioeconomics, Transportation, Utilities, and Environmental Justice.

1.4 SUMMARY OF KEY REGULATORY REQUIREMENTS

Regulatory considerations including permits and licenses required to complete this project are summarized in Table 1.4

Table 1.4: Key Regulatory Requirements

• AFI 32-7064, Integrated Natural Resource Management
• Endangered Species Act of 1973, 16 USC §1531 et seq.
• 50 CFR Part 200 Wildlife and Fisheries
• 50 CFR Part 402 Endangered Species Act of 1973
• Executive Order 11988 – Floodplain Management
• 40 CFR, Part 6, Appendix A—Protection of Floodplains
• ORC 1531.25, Protection of Species Threatened with Statewide Extinction
• AFI 32-7063, AICUZ Program
• AFI 32-7065, Cultural Resources Management
• NAAQS—40 CFR §81.34 and §81.336
• OAC 3745-17 Particulate Matter Standards
• OAC 3745-31 PTI New Source of Pollution
• OAC 3745-25 Emergency Episode Standards
• OAC 3745-15-06 De minimus air contaminant source exemption
• OAC 3745-15-102 Non-Attainment Criteria and Exceptions
• 29 CFR 1910.95 Occupational Noise Exposure
• 40 CFR Part 122.26 Storm Water Discharges
• OAC 3745-31 Permit to Install New Source of Pollution
• OAC 3745-33 Ohio NPDES Permit
• OAC 3745-38 Storm Water Notice of Intent (NOI)
• 49 CFR Parts 171 – 178; Transportation of Hazardous Materials
• 42 USC 4321, et seq; NEPA
• 32 CFR 989; Environmental Impact Analysis Process
• Title 33, USC 1344 Section 401, 404; Clean Water Act
• Executive Order 11990; Protection of Wetlands
• OAC 3745-27; Ohio Drinking Water Standards
• CERCLA
• 40 CFR Parts 261, 262; Hazardous Waste Generator Standards
• National Historic Preservation Act
• 40 CFR Part 93.153; Non-Attainment Emissions Criteria
• AFMAN 91-201; Explosive Safety

2.0 ALTERNATIVES INCLUDED IN THE PROPOSED ACTION

2.1 INTRODUCTION

In March 2008, WPAFB completed the EA titled, *Environmental Assessment for BRAC Facilities and Remote Field Training Site*, which evaluated the impacts of the USAFSAM training at the Warfighter Training Center. After completion of the March 2008 EA, USAFSAM became aware of the NASIC Ground Truth Compound site, which already had aircraft on-site, and initiated the process to review the site through the environmental assessment process in accordance with Parts 1500 – 1508 of NEPA and the USAF Environmental Impact Analysis Process (EIAP) (32 FR Part 989). This EA provides an evaluation of the Proposed Action at the NASIC Ground Truth Compound and the No Action Alternative.

2.2 PROCESS USED TO FORMULATE ALTERNATIVES

USAFSAM identified the NASIC Ground Truth Compound site as a potential site for AMI Training operations based on the overall suitability and accessibility of the site.

2.3 ALTERNATIVES ELIMINATED FROM FURTHER STUDY

No proposed locations were eliminated from the EA evaluation process. The site included in this EA was pre-screened by CEAN and determined to be a viable location for the Proposed Action. As indicated in Section 2.1 of this document, an EA and FONSI/FONPA were completed for the Warfighter Training Center in 2008 and are incorporated by reference in this EA.

The proposed location of the Remote Field Training Site (RFTS) is the Warfighter Training Center Training (WTC) located in Area A of WPAFB. The WTCWTC is the only existing training site at WPAFB and was selected for the RFTS because it is remote and secure, and already contains a utility infrastructure and other improvements that can meet some of the needs of the RFTS. The Air Force Reserves (445th Airlift Wing) uses the WTC for base engineering emergency force training. In recent years, the need for training at the WTC by the Air Force Reserves has been reduced, leaving the area available for EMEDS training.

Requirements for the RFTS include staging pads for tents, communication, electrical, water, and sewage capabilities. The site must be fenced and secure. Existing improvements at the WTC already provide some of these infrastructure needs. The only permanent structure to be placed at the site is a heated, 600

ft² decontamination storage building. A 650 ft² gravel area would be located immediately adjacent to this structure to be used for staging. A water bladder would be used in warm weather and stored empty in the storage building during cold weather. At least 12 storage lockers would be located within the building. In addition to the decontamination storage building, there would be staging areas for latrine tents, EMEDS tents, long tents, regular tents, and designated training areas.

This project will also incorporate several utility line upgrades at the WTC. Existing non-potable water lines will be replaced. Also, a new 220-volt service will be added to support the Consolidated Aircraft Maintenance Squadron (CAMS) tent proposed at the southern end of the existing mock runway. Neither of these upgrades requires infrastructure upgrades outside the existing developed area of the WTC. Finally, a new wastewater sewer connection will be installed from the WTC to the wastewater collection system. No connection currently exists. A new line will be installed from the WTC south along an existing gravel lane to a wastewater sewer main near State Route (SR) 444; the new line will tie in at an existing manhole near the lane.

In October 1998, an EA (referenced to herein as the WTC EA) was prepared to address the cumulative impacts of training exercises at the WTC (PES/Metcalf & Eddy, 1998). The FONSI for the WTC EA was signed on March 22, 1999. This EA restricts training activities at WTC to approximately 20 acres of disturbed areas, encompassing the existing compound and mock runway areas with the Air Force (AF) Form 813 restrictions being implemented. This commitment allows military training exercises to continue while minimizing adverse impacts to aquatic, terrestrial, and wetland habitats, as well as to archaeological sites. In accordance with this commitment, any EMEDS or other training associated with the inbound missions being conducted in the WTC would be restricted to disturbed area.

2.4 DESCRIPTION OF PROPOSED ALTERNATIVES CONSIDERED

2.4.1 Proposed Action

The NASIC Ground Truth Compound site (Figure 2.4.1) is located near the west property boundary in Area A (Refer to Figure 1.2). The location is accessible from Riverview Road and is bordered by woodlands to the north, west and southwest and airstrip to the east and southeast. The site is located approximately 800 feet east-southeast from the Mad River, and is located within the 10 and 100 year flood plains as determined by the US Army Corps of Engineers (USACE).

This location was previously used for training associated with aircraft battle damage repair. Currently the site is utilized by NASIC for varied training activities. These activities began subsequent to transfer of responsibility of the former ABDR site to NASIC. No environmental assessment was completed prior to initiating NASIC training activities at the transferred site which is now known as the NASIC Ground Truth Compound. When USAFSAM requested to use this site, 88 ABW/CEA determined it was necessary to perform an EA to evaluate the potential impacts from the existing NASIC activities combined with the proposed USAFSAM training activities. The project location is primarily comprised of open meadow and is occupied by portions of aircraft used for a variety of training activities. A fence surrounds the 3.7-acre area with a locking gate to prohibit unauthorized access.

Development of the property as an USAFSAM and NASIC training area would not significantly alter the existing property features. The USAFSAM and NASIC activities would utilize the area already enclosed by the existing fence.

Field experience for initial responders to a remote mishap is essential to the flight surgeon's understanding of, and integration into both the interim and permanent safety investigation boards. The appropriate sequence of events, priorities of action, and protocols of conduct at a mishap field site need to be clearly understood and practiced before a mishap occurs. The key purpose of the Safety Board is to determine the factors based upon collected evidence that contributed to the mishap and prevent the next mishap from happening. Initial actions in the first 72 hours following an aviation mishap are the most critical for identification, collection, and preservation of perishable, time sensitive evidence.

The proposed action would teach Quadrant Search Patterns, Mishap Site Personnel Safety, Initial Site Survey, and Recovery Operations. Training will consist of: 1) Review of the sequence of events on site for the first 72 hours following the mishap. 2) Care of survivors and interaction with other first responders. 3) Identification of hazards to and protection of first responders, investigators, and recovery teams. (compressed gas, pyrotechnics, ordinance, ammunition, composite materials, etc) 4) Identification and interview techniques of witnesses at the scene. 5) Techniques for identification, collection and preservation of evidence. 6) Techniques for using graphs, grids, drawing diagrams, sketches, and obtaining quality technically-informative photographs. 7) Development of an adherence to mishap checklists appropriate for the supported mission. 8) Convey a clear understanding of the need for a robust, but thoughtfully stocked "medical support" package including a "Sick Call" bag for minor medical

and "Mass Casualty" bag. 9) Continuous monitoring of all on-scene personnel for any stresses, physical or psychological.

The proposed action would include Aircraft Crash Investigation Training or Aircraft Mishap Investigation (AMI) using three (3) aircraft accident working areas: T-38 and C-130 aircraft fuselages and an impact trench site. The impact trench (see Plate III, Appendix C) would be approximately 30 feet in diameter and 4 feet deep (water table permitting) surrounded by an adjacent mound approximately 4 feet above ground (for total depth of 8 feet).

The working area requires no less than 4 acres of flat, grassy, or slightly rolling terrain to allow teaching quadrant searches and other training. Within the secured area, two existing trailers would be used to store equipment and support materials. The trailers would provide access for easy loading/unloading of heavy awkward equipment that can weigh up to 200 pounds. A parking area for students and staff would be located on one of the existing gravel pads within the fenced area of the compound. Portable toilets will be provided on class dates to support up to 50 students and staff.

USAFSAM would use the NASIC Ground Truth Compound site throughout the year for the following courses: Aircraft Mishap Investigation & Prevention (2x), Aerospace Medicine Primary Course (8 - 10x), Aerospace & Operations Physiology Officer Course (1x), Flight Medicine Management Workshop (10x). Total usage days: approximately 25 per year. The total number of students would be approximately 800 per year, with average class size of 32 students.

2.4.2 No Action Alternative

The National Environmental Policy Act requires evaluation of a "No Action" Alternative under which the proposed activity would not be conducted. As stated in Section 2.3 of this document, a viable alternative location for the EMEDS training activity exists and has already been evaluated in the March 2008 EA for the Warfighter Training Center. Should the Proposed Action for the EMEDS training not be implemented at the NASIC Ground Truth Compound, the Warfighter Training Center will be used as the training location as it was already evaluated and determined to cause no significant impact as identified in the March 2008 EA. Should no action be implemented, the existing NASIC training activities will cease until a new site is located, unless it is conducted at a location which has been evaluated under the requirements of NEPA and a FONSI has been executed.

2.5 COMPARISON MATRIX OF ALTERNATIVES

The conditions and potential impacts of the NASIC Ground Truth Compound alternative location have been summarized in Table 2.5.1a. This summary is intended to be compared with the summary prepared for the Warfighter Training Center incorporated by reference in Section 2.3 above. The relative potential impact has been assigned as high, moderate or low with high denoting a greater potential impact for the proposed alternative, moderate representing an average potential impact and low denoting a minimal level of impact from the proposed activities.

Each environmental consideration was ranked in order to help the reader evaluate overall potential impacts of the un-mitigated location as well as projected impacts at the site with control measures in place.

Table 2.5: Comparison of Alternatives

Resources	NASIC Ground Truth Compound		No Action Alternative	
	Short Term	Long Term	Short Term	Long Term
Natural Resources				
<i>Vegetation</i>	No Impact	No Impact	No Impact	No Impact
<i>Wildlife</i>	No Impact	No Impact	No Impact	No Impact
<i>Threatened/Endangered Species</i>	No Impact	No Impact	No Impact	No Impact
<i>Wetlands</i>	No Impact	No Impact	No Impact	No Impact
Water Resources				
<i>Groundwater</i>	No Impact	No Impact	No Impact	No Impact
<i>Surface Water</i>	No Impact	No Impact	No Impact	No Impact
<i>Floodplain</i>	Minor Impact; Action will not adversely affect holding capacity of floodplain	Minor Impact; Action will not adversely affect holding capacity of floodplain	No Impact	No Impact

Hazardous Materials/Waste				
<i>IRP Sites</i>	No Impact; No IRP Sites will be affected by the Proposed Action	No Impact; No IRP Sites will be affected by the Proposed Action	No Impact	No Impact
<i>Hazardous Materials/Waste</i>	No Impact	No Impact with standard housekeeping practices	No Impact	No Impact
<i>Stored Fuels</i>	No Impact; No on-site fuel storage is expected	No Impact; No long term fuel storage is anticipated	No Impact	No Impact
Land Use	No Impact; Proposed use is consistent with current activities	No Impact; Proposed use is consistent with current activities	No Impact	No Impact
Soils	No Impact; Only minor soil disturbance required	No Impact; Soil disturbance not required	No Impact	No Impact
Cultural Resources	No Impact; No archaeological Resources identified in project vicinity	No Impact; No archaeological Resources identified in project vicinity	No Impact	No Impact
Air Quality	No Impact; Only minor excavation/site preparation required which would result in air quality impacts	Minor Impact; Emissions generated by generators will be below non-attainment threshold	No Impact	No Impact

Noise	Minor Impact; explosives use (<3 lbs: military dog training) may result in an intermittent increase in noise near proposed action; unlikely to affect residents/sensitive receptors	Minor Impact; explosives use (<3 lbs: military dog training) may result in an intermittent increase in noise near proposed action; unlikely to affect residents/sensitive receptors	No Impact	No Impact
Health and Safety	No Impact; proposed activities are consistent with activities currently conducted at the site and pose no significant additional impact	No Impact; proposed activities are consistent with activities currently conducted at the site and pose no significant additional impact	Minor Impacts; Conducting training off-site will result in additional Health and Safety exposure due to driving on public roads	Minor Impacts; Conducting training off-site will result in additional Health and Safety exposure due to driving on public roads
Socioeconomics	No Impact	No Impact	No Impact	No Impact
Transportation	No Impact; proposed activities are consistent with current activities at the site with no significant additional impact	No Impact; proposed activities are consistent with current activities at the site with no significant additional impact	Minor Impacts; Off-site training may add Health/Safety exposure from driving on public roads and transport of DOT hazardous materials	Minor Impacts; Off-site training may add Health/Safety exposure from driving on public roads and transport of DOT hazardous materials
Utilities	No Impact	No Impact	No Impact	No Impact
Environmental Justice	No Impact	No Impact	No Impact	No Impact

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section reviews the existing environment across WPAFB, and specifically at the NASIC Ground Truth Compound for the proposed USAFSAM/NASIC operations (Proposed Action). This section also provides the baseline for assessment of the potential environmental impacts of the alternative in Section 4.0. Environmental conditions discussed in this section include Natural Resources, Water Resources, Hazardous Materials and Wastes, Stored Fuels, the Installation Restoration Program, Land Uses, Soils,

Cultural Resources, Air Quality, Noise, Health and Safety, Socioeconomics, Transportation, Utilities, and Environmental Justice.

3.2 NATURAL RESOURCES

3.2.1 Vegetation

Most of the vegetation on WPAFB or in the vicinity of the base has been previously altered or modified to some extent by human disturbances (BHE 1999). Natural vegetative communities currently found at WPAFB include broadleaf forests (740 acres), wetlands (20.5 acres), prairie (109 acres) and old fields (306 acres) (WPAFB 2007). Botanical surveys have identified 655 plant species on the base; approximately 29 percent (187) of these species are considered non-native or invasive plants (BHE 1999). More detailed descriptions of the composition of vegetative communities, current vegetation management strategies, and plant species that occur at WPAFB are found in the base Integrated Natural Resources Management Plan (INRMP; WPAFB 2007).

For management purposes, vegetation at WPAFB is classified into categories denoted as improved, semi-improved, and unimproved grounds based on the required intensity of maintenance practices (WPAFB 2007). Improved grounds consist of turfgrass areas and landscape materials that require intensive and regular maintenance such as lawns, landscaped areas, parade grounds, road shoulders along main thoroughfares, and most Military Family Housing areas. Semi-improved grounds are composed primarily of tall fescue grass (*Festuca arundinacea*) and Kentucky bluegrass (*Poa pratensis*) that are maintained at between 4 and 7 inches high as necessary for functional, operational, or aesthetic reasons. These grounds include the airfield, rifle range, picnic areas, antennae facilities, ammunition storage areas, secondary road shoulders, and drainage ditch banks. Unimproved grounds include all other grounds on the base that require little to no maintenance such as areas of natural vegetative undeveloped grounds used for military training, rough areas around the base golf courses, the Huffman Prairie Flying Field, and the shooting range. These unimproved areas consist of old field communities with scattered trees. The dominant vegetation includes a mix of grasses and weeds that are generally managed using an infrequent mowing schedule (once a year to once every 3 years) as needed for bird control, habitat modification, or to eliminate fire hazards.

3.2.1.1 Proposed Action

Based on field observations, the vegetation observed within the project area is primarily managed turfgrass, with scattered trees distributed across the training site. Although currently classified as unimproved grounds (WPAFB 2007), the existing grass and herbaceous vegetation within the project area are mowed several times during the growing season and maintained at a height of less than six inches. Gravel pads lacking vegetation or with sparse herbaceous cover also occur in the immediate vicinity of the parked aircraft bodies that are used for training purposes. These developed areas encompass about 15 to 20 percent of the total project area.

The turfgrass plant community within the boundaries of the project area is of low diversity and dominated by tall fescue grass and Kentucky bluegrass. Scattered weedy and disturbance-tolerant species such as foxtail grass (*Setaria* spp.), Canada goldenrod (*Solidago canadensis*), and narrowleaf plantain (*Plantago lanceolata*) are also present across the project area. A scattered cover (about 10 percent) of medium size (10-14 inches diameter) siberian elm (*Ulmus pumila*) and silver maple (*Acer saccharinum*) trees are present in the northeastern and south-central portions of the project area. Invasive bush honeysuckle (*Lonicera maackii*) shrubs are present beneath several of the larger trees and along the fence line on the western boundary of the current training site.

Disturbed upland forest vegetation occurs to the west and south of the project area in unimproved grounds contiguous with the current NASIC Ground Truth Compound training site. Dominant tree species present in this habitat include small to medium size (6 to 16 inches diameter) box elder (*Acer negundo*), mulberry (*Morus alba*), eastern sycamore (*Plantanus occidentalis*), and eastern cottonwood (*Populus deltoides*) trees. This forest community is generally of low diversity, with many canopy gaps and a dense (greater than 50 percent) cover of invasive bush honeysuckle shrubs in the forest understory.

3.2.2 Wildlife

Previous base-wide surveys have identified 272 species of wildlife that are present at WPAFB at least on a seasonal basis: 23 mammals, 118 birds, 8 reptiles (3 snakes, 1 skink, and 4 turtles), 6 amphibians (4 frogs, a toad, and a salamander), 36 fishes, 14 mussels, 35 butterflies, 8 moths, 15 odonates (dragonflies and damselflies), 6 carrion beetles, and 3 crayfish (WPAFB 2007, BHE 1999). Common mammals on WPAFB include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), beaver (*Castor canadensis*), groundhog (*Marmota monax*), eastern fox squirrel

(*Sciurus niger*), eastern gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus*), and deer mouse (*Peromyscus maniculata*). Common birds on WPAFB include European starling (*Sturnus vulgaris*), eastern meadowlark (*Sturnella magna*), barn swallow (*Hirundo rustica*), savannah sparrow (*Passerculus sandwichensis*), red-winged blackbird (*Agelaius phoeniceus*), Canada goose (*Branta canadensis*), red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), American robin (*Turdus migratorius*), turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), and mallard (*Anas platyrhynchos*). Appendix B of the INRMP contains a detailed list of species encountered during the fauna surveys.

3.2.2.1 Proposed Action

Specific fauna surveys have not been conducted in the area proposed for the NASIC Ground Truth Compound. However, many of the common terrestrial mammal and bird species present at WPAFB often can be considered habitat generalists and are likely to be found in disturbed or developed environments. Most species of amphibians, reptiles, and dragonflies documented at WPAFB have been found in or near aquatic habitats. Habitat specialists that are Federal or state-listed wildlife species and known to occur at WPAFB are discussed in Section 3.3.3.

Wildlife habitats present in the project area include approximately 3.7 acres of an open grassy field with scattered cover of trees and shrubs. Based on field observations, the overall quality of this habitat for wildlife is low. About 20 percent of the project area has been previously disturbed for military training purposes (parked aircraft with associated gravel pads). The vegetation within the project area is mowed several times throughout the growing season, providing little nesting or foraging ground cover for wildlife. Invasive and weedy plants (woody shrubs and trees) dominate the disturbed forest habitat to the west and south of the project area. In addition, wildlife habitats within both the project area and grounds adjacent to the site are subject to edge effects from adjacent roads and the developed airfield on WPAFB.

3.2.3 Threatened and Endangered Species

Air Force regulations (AFPD 32-70 and AFI 32-7064) require all AF properties to protect species classified as endangered or threatened under the Endangered Species Act of 1973 (ESA) and to comply with state regulations for species classified as threatened and endangered (e.g., State of Ohio Law 1531.25). Air Force Instruction 32-7064 also states that AF installations sustaining federally listed species or their habitats must address conservation of federally listed species in the Integrated Natural

Resources Management Plan (INRMP). The INRMP also should include species that are proposed or candidates for federal listing. Additionally, AFI 32-7064 states the INRMP will provide for the protection and conservation of state listed species when practicable and not in conflict with the military mission.

A number of federal and state-listed species have been documented at WPAFB by various surveys conducted for rare species of plants and wildlife (See Table 3.2.3-1). Federally listed or protected species present on WPAFB are the Indiana bat (*Myotis sodalis*), the clubshell mussel (*Pleurobema clava*, a mussel), and the bald eagle (*Haliaeetus leucocephalus*). The bald eagle was removed from the federal list of threatened and endangered species but is still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The eastern massasauga rattlesnake (*Sistrurus c. catenatus*), a candidate for federal listing, also occurs on WPAFB. An endangered species management plan (ESMP) has been developed in consultation with the U.S. Fish and Wildlife Service (USFWS) and Ohio Department of Natural Resources (ODNR) for federally listed, candidate, and protected species. The ESMP also addresses the blazing star stem borer (*Papaipema beeriana*), a state-listed moth also known as Beer's noctuid. In accordance with Air Force guidance, the ESMP has been fully incorporated into the INRMP, which contains detailed life history, conservation information, and management strategies for each of these species (WPAFB 2007).

Several other species of wildlife and plants listed by the State of Ohio known to occur at WPAFB are listed in Table 3.2.3-1. These species are not addressed by the ESMP.

Table 3.2.3-1: Federal and State Threatened / Endangered Species known to occur at WPAFB

Common Name	Scientific Name	Federal Status	State of Ohio Status
MAMMALS			
Indiana bat	<i>Myotis sodalist</i>	E	E
BIRDS			
King rail	<i>Rallus elegans</i>	-	E
Common tern	<i>Sterna hirundo</i>	-	E
Bald eagle	<i>Haliaeetus leucocephalus</i>	PT	E
Osprey	<i>Pandion haliaetus</i>	-	E
Sharp-shinned hawk	<i>Accipiter striatus</i>	-	SI
Peregrine falcon	<i>Falco peregrinus anatum</i>	-	E
Upland sandpiper	<i>Bartramia longicauda</i>	-	T
Sedge wren	<i>Cistothorus platensis</i>	-	SC
Henslow's sparrow	<i>Ammodramus henslowii</i>	-	SI
REPTILES			
Eastern massasauga rattlesnake	<i>Sistrurus c. catenatus</i>	C	E
MUSSELS			
Clubshell (subfossil)	<i>Pleurobema clava</i>	E	E
ARTHROPODS			
Blazing star stem borer (Beer's noctuid; moth)	<i>Papaipema beeriana</i>	-	E
Moth	<i>Tarachidia binocular</i>	-	SI
PLANTS			
Butternut	<i>Juglans cinerea</i>	-	PT
Whorled water-milfoil	<i>Myriophyllum verticillatum</i>	-	E
Great Plains ladies'-tresses	<i>Spiranthes magnicamporum</i>	-	PT
Pigeon grape	<i>Vitis cinerea</i>	-	PT

Sources: WPAFB (2007)

E = endangered, T = threatened, SI = special interest, C = candidate, SC = species of concern, PT = potentially threatened

At present, Indiana bats are only known to occur on WPAFB during the summer maternity season (April 1 through September 30) when the species uses forest and wooded riparian habitats for foraging and potentially for roosting (WPAFB 2007). The base does not contain suitable Indiana bat winter habitat (i.e., hibernacula) and no critical habitat has been designated on WPAFB. Specific dates when the bats arrive at WPAFB in the spring and depart in the fall are not known. The nearest hibernaculum to WPAFB is the Lewisburg Limestone Mine in Preble County, Ohio approximately 20 miles west of the base.

Bald eagles only occur on WPAFB as rare winter visitors and there are no records of bald eagles nesting on the base (WPAFB 2007). Most previous sightings have been along the Mad River and the nearest

known nest is approximately 45 miles southeast of WPAFB in Ross County. No traditional communal bald eagle roosts occur on WPAFB. However, potential habitat for nesting bald eagles on WPAFB is forest within 0.5 mile of the Mad River, around Bass Lake, Gravel Lake, and Twin Lakes. Wintering bald eagles most likely will be found foraging or perching near those water bodies, but could potentially establish roosts in any suitable large tree on the base. Foraging bald eagles could potentially be observed anywhere on WPAFB.

Remains of clubshell mussels have been found along the Mad River during wildlife surveys of WPAFB and potential habitat for the clubshell exists throughout the sections of the Mad River on the base (WPAFB 2007). Although this species may have been extirpated from the Mad River, WPAFB implements a management strategy to provide potential mussel habitat, to maintain or increase current population levels of freshwater mussels, and to protect them from adverse impacts resulting from the base mission.

The only known food plants of the blazing star stem borer species are “blazing stars” belonging to the genus *Liatris*. To date, Huffman Prairie Natural Landmark is the only location where this species has been documented on WPAFB. However, because blazing star plants have been observed in several other fields on the base, the Air Force considers old field habitats on WPAFB to provide suitable habitat for this moth (WPAFB 2007).

Upland sandpipers are the only state-listed, species of concern, or species of interest known to currently utilize WPAFB for breeding habitat (BHE 1999). This species prefers flat, open terrain with short-grass habitats such as prairies, pastures, and grasslands. Upland sandpipers have been observed between runways and in managed (mowed) fields within the active airfield of Area C. Sedge wrens (breeding males) were previously observed on Huffman Prairie Natural Landmark in 1992, but no subsequent occurrences of this species has been documented in the prairie. Other species such as the king rail, common tern, Henslow’s sparrow, osprey, sharp-shinned hawk, and peregrine falcon have been observed on the base only as occasional visitors or transitory migrants.

As part of the environmental assessment process, consultation has been initiated with the US Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) to evaluate potential impacts on threatened and endangered species. In a letter dated October 23, 2008 the ODNR indicated that they had no records of threatened or endangered species within a one mile radius of the project area.

The USFWS provided comment on March 18, 2009 which included recommendations to preserve certain dead and living trees as habitat and woodlots which may provide habitat. This project location does not currently include these features of interest. The USFWS also commented that the project site is located within the range of the eastern massasauga rattlesnake and recommended that delineation be conducted to determine if suitable habitat occurs within the project area. This delineation has been on-going at WPAFB during 2009.

Known suitable habitat for threatened and endangered species and species occurrences within the project area were analyzed using a geographic information system (GIS). Grounds adjacent or contiguous to the project area were also examined to evaluate potential disturbances to threatened and endangered species from military training. Only spatial data for threatened and endangered wildlife was examined for this analysis. The consideration of suitable habitat was also limited to WPAFB, as information was not available for areas of private lands located outside the base.

3.2.3.1 Proposed Action

No suitable habitat for the clubshell mussel, eastern massasauga rattlesnake, or blazing star stem borer occurs within the boundaries of the project area. A minor amount (<0.25 acre) of suitable habitat for the Indiana bat and bald eagle occurs along the extreme western edge of the project area (Figures 3.2.3-1 and 3.2.3-2). The suitable habitat for both species overlaps within a small area of forested vegetation.

Suitable habitat for the blazing star stem borer occurs in grounds contiguous to project area to the north, south and west (See Figure 3.2.3-1). In addition, a patch of suitable habitat for the bald eagle and Indiana bat occurs in adjacent forest habitat to the west of the project area (Figures 3.2.3-1 and 3.2.3-2). The suitable habitat for each species also overlaps in the same area.

Suitable habitat for state-listed, species of concern, or species of interest does not occur within or adjacent to the project area. Although upland sandpipers have been observed in the past using the central and northeastern parts of the airfield for breeding habitat in (BHE 1999), no occurrences of this species have been documented in the project area or contiguous portions of the airfield.

3.2.4 Wetlands

Waters of the United States, including jurisdictional wetlands, are protected by Sections 401 and 404 of the Clean Water Act (Title 33, United States Code Section 1344). The U.S. Army Corps of Engineers

(USACE) and USEPA jointly administer Section 404 of the Clean Water Act (CWA). Actions that impact wetlands, including dredging, filling, and any activities that discharge sediment or displace soil into a wetland may require a Section 404 permit from the USACE. A federal permit may not be required for activities that affect isolated wetlands in all circumstances because recent changes in regulatory guidance jointly issued by the USACE and USEPA now require application of a “significant nexus” test to determine if an isolated wetland provides biological, physical, or chemical benefits to a “traditionally navigable water” (TNW) or navigable by large commercial vessels.

Wetlands that are determined by USACE to be isolated from other waters of the United States and not regulated under federal law are subject to state regulation under the Ohio Isolated Wetlands Law (Section 6111.021 of the Ohio Revised Code). Impacts to such isolated wetlands in Ohio are regulated by OEPA through the General Isolated Wetland Permit. In addition, through the Section 401 Water Quality program, the State of Ohio has implemented anti-degradation criteria for wetlands (Section 3745-1-54 of the Ohio Revised Code). These standards require that Section 401 applicants assess the functions and values of potentially affected wetlands using a numerically derived score developed through application of the Ohio Rapid Assessment Methodology (ORAM). The ORAM score classifies wetlands into three categories (Category 1, 2, and 3) that are allocated varying levels of regulatory protection and require different levels of compensatory mitigation for unavoidable wetland impacts.

Executive Order (EO) 11990 (*Protection of Wetlands*) also requires Federal agencies to minimize significant actions that contributes to the loss or degradation of wetlands and that action be initiated to enhance their natural value. The Air Force has established policies to implement EO 11990 through the Environmental Quality and Natural Resources Programs (AFI 32-7064, dated 17 September 2004). As part of these policies, proposed actions that could impact wetlands, even if the affected area is not within a jurisdictional wetland boundary, must be evaluated through an environmental impact analysis in accordance with NEPA and the Air Force EIAP regulations found at 32 CFR Part 989. In addition, prior to any construction activity in a wetland area, proponents must first prepare a Finding of No Practicable Alternative (FONPA), which documents that there are no practicable alternatives to such construction, and that the proposed action includes all practicable measures to minimize impact to wetlands (Section 3.6, AFI32-7064). In preparing the FONPA, the AF must consider the full range of practicable alternatives that will meet the proposed mission requirements.

As part of its wetlands management program and in accordance with AFI 32-7064, WPAFB has conducted comprehensive inventories to identify wetland areas on the base. The initial wetlands inventory was completed in 1994 and has been updated on a five-year cycle using the 1987 Wetland Delineation Manual (most recently in 2005). This information forms the basis of the wetlands management plan, which has been incorporated into the INRMP (WPAFB 2007). A total of 27 jurisdictional wetlands were identified in Area C during the most recent (2004) base-wide wetlands delineation survey. As part of this survey, each wetland identified on the base was mapped using Global Positioning System (GPS) technology and assigned a functional value using the ORAM classification system. Detailed descriptions of each wetland can be found in the INRMP (WPAFB 2007).

3.2.4.1 Proposed Action

No wetlands have been identified within or in close proximity to the project area for the Proposed Action. The nearest downgradient wetlands are located approximately 2,000 feet to the southwest of the project area along the floodplain of the Mad River.

3.3 WATER RESOURCES

3.3.1 Groundwater

Areas A and C of WPAFB and the Mad River overlay a buried Pleistocene valley referred to as the Mad River buried valley. The valley was glacially carved into soft, calcareous shales and thin limestones of Ordovician age. These bedrock deposits bound the sides and bottom of the valley. The valley is narrow (from west to east) at Huffman Dam, and the dam is keyed into the Ordovician bedrock on both sides of the valley. Groundwater to the northeast of the dam (a) eventually flows below Huffman Dam through a narrow opening in the buried valley, (b) discharges to surface water and eventually into the Mad River, or (c) is captured by extraction wells. The underlying bedrock is primarily low permeable shale and does not constitute an aquifer (Dumouchelle et al., 1993).

Sediments within this valley consist primarily of sand and gravel outwash deposits with thin, laterally extensive clay layers. Groundwater generally occurs under unconfined water table conditions within the Mad River buried valley aquifer deposits. In areas where clay layers are present at the surface, confined or semi-confined conditions are present (IT Corporation, 1997).

Groundwater at the Base is defined as part of the Mad River Aquifer, which is part of the Miami Buried Valley Aquifer, a sole source aquifer. The Buried Valley Aquifer is a prolific source of water and is highly utilized as a municipal and industrial source. Groundwater extraction in the vicinity of WPAFB occurs at the City of Dayton's Huffman Dam wellfield and the Rohrer's Island wellfield; two City of Fairborn wellfields; the WPAFB Springfield Street, Skeel Avenue, and Water Road wellfields; Wright-State University; and the southwest boundary line of the groundwater removal action currently active on WPAFB (WPAFB, 1999).

The Buried Valley Aquifer within the area is a designated sole source aquifer under Section 1424(e) of the SDWA and the Ohio Administrative Code (OAC) Rule 3745-27-07(B)(5). The aquifer is generally confined to the buried valleys. Groundwater is recharged through infiltration of precipitation, groundwater flow into the area, and infiltration of surface water. Groundwater discharges from the area include groundwater flow out of the area; evapotranspiration from lakes, wetlands, and vegetated areas; groundwater extraction at numerous wellfields; and discharge into the Mad River (WPAFB, 1999).

3.3.1.1 Proposed Action

The NASIC Ground Truth Compound is located over the Mad River buried valley aquifer. The average ground surface elevation for the site is 803 feet Mean Sea Level (MSL). The aquifer is likely unconfined at the site and occurs at an average elevation of approximately 798 ft MSL (IT Corporation, 1997). Near surface clays are present at the site with an approximate thickness of 5 feet (IT Corporation, 1997). The presence of this clay in the site area may cause semi-confining conditions. Groundwater flow at the site is to the southwest toward Huffman Dam (IT Corporation, 1997).

3.3.2 Surface Water

The following summarizes the known surface water conditions in the immediate vicinity of the proposed project location:

3.3.2.1 Proposed Action

The NASIC Ground Truth Compound is relatively flat with an approximate elevation of 802 ft MSL across the 3.7 acre proposed project location. The proposed project site is located approximately 800 feet east-southeast of the Mad River. Based on ground surface contours in the area, storm water is expected to flow west via a swale towards the Mad River (Figure 3.3.2).

3.3.3 Floodplain

WPAFB is located within the Mad River valley of the Great Miami River Basin. This valley is approximately 2 miles wide near the center of Area C and narrows to approximately 0.5 mile wide at the Huffman Dam, which is located just west of the WPAFB boundary in Area C. The Huffman Dam, constructed by the Miami Conservancy District (MCD) following massive flooding of 1913, serves as one of several flood retention basins to protect the Dayton metropolitan area from severe flood events. The extent of the 100 year floodplain along the Mad River and within WPAFB is determined by water levels behind the dam and regulated by the MCD as the local federally-designated floodplain management agency. If necessary, the MCD has the authority to increase the pool level of the retention basin to 835 feet MSL. Correspondence from MCD regarding the project alternatives is provided in Appendix A.

Most of Area C lies behind Huffman Dam and is subject to flooding. The 10-year floodplain elevation of the Mad River at WPAFB is 804.7 feet MSL, while the 100-year floodplain, based on recent modeling studies conducted by the U.S. Army Corps of Engineers (USACE), is at an elevation of 814.3 feet MSL. The Huffman Dam spillway is at an elevation of 835 feet MSL, higher than most of Areas A and C and the base and portions of the city of Fairborn (ICI and SAIC 1995). The 200 year flood pool behind Huffman Dam is at an elevation of 817.6 feet MSL (MCD 2008).

Elevations given below for each alternative are based on 1-foot contour data for WPAFB at the location proposed for the project area.

3.3.3.1 Proposed Action

The proposed project area is located on relatively flat topography about 1,000 feet southeast of the Mad River (see Figure 3.3.2). Elevations range from 800 feet MSL along the fence line on the western boundary of the site to 804 feet MSL across the eastern half of the site. At these elevations, the proposed project area is located entirely within both the 10-year and 100-year floodplains of the Huffman Dam retention basin.

3.4 HAZARDOUS MATERIALS/WASTE, STORED FUELS, AND INSTALLATION RESTORATION PROGRAM (IRP)

The Installation Restoration Program (IRP) is designed to identify, assess and remediate sites of contamination on military installations. The IRP process provides a systematic approach for the DoD to

fulfill its obligations at sites of environmental impact under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act (RCRA).

3.4.1 Proposed Action

The NASIC Ground Truth Compound is not listed as an IRP site. Two IRP sites are located near the NASIC Ground Truth Compound training site; the Earthfill Disposal Zone 11 (EFDZ11), a recreational grassy open area with gravel roads and a Boy Scout camping area, is located to the northwest of the site and Earthfill Disposal Zone 12 (EFDZ12), a wooded recreational area for hunting is located to the northeast of the project site.

3.4.1.1 Earthfill Disposal Zone 11 (EFDZ 11)

EFDZ 11, also known as LF024, is a rectangular site in Area A along both sides of Riverview Road. It is near the Boy Scout Camp and about 200 feet from the middle of the northwestern boundary of Area A.

EFDZ 11 was identified during a review of civil engineering maps in December 1988. Construction debris associated with a Patterson Field runway project in the early 1940s was expected to be present. An area adjacent to the site contains what has been described as “organic muck” on old Base maps. A 25,000-gallon above ground tank may have been located in the area at one time, but its exact location is unknown. The site is generally flat but the ground is rough, uneven, and covered with grass and small trees. The potential for contamination exists because of the possible uncontrolled disposal of hazardous materials within the fill. Records indicating the actual extent of the site do not exist.

During the OU3 RI, groundwater samples were collected as a part of the long-term monitoring program established under the site inspection. Data obtained from two rounds of sampling identified no compounds at concentrations above OU3 background levels. Based on existing conditions it was determined that no significant risk or threat to public health and the environment exist and that no further action was required. This site is included in the 1996 ROD for 21 No Action Sites.

3.4.1.2 Earthfill Disposal Zone 12 (EFDZ 12)

EFDZ 12, also known as LF025, is an irregularly shaped area in Area A, south of Buildings 4070 and 4066 and about 1,000 feet south of the middle of the northwestern boundary of Area A. During a review of civil engineering maps in December 1988, EFDZ 12 was identified as an old gravel pit. It was

suspected that construction debris associated with a Patterson Field runway project in the early 1940s was disposed at the site. The gravel pit no longer exists, and the site is generally flat but the ground is rough, uneven, and covered with grass and small trees. No evidence of construction material was visible on the surface. The site is adjacent to an area where large quantities of organic muck were reported during the construction of the runways at Patterson Field.

Records showing the extent of the disposal activities or the type of material placed in the area are unavailable, and there was no information concerning the composition of the organic muck adjacent to the site. Methods of waste disposal used during the 1940s create a potential for hazardous materials to be present within the fill area.

During the OU3 RI, groundwater samples were collected as a part of the long-term monitoring program established under the site inspection. Data obtained from two rounds of sampling identified no contaminants at concentrations above OU3 background levels. Based on existing conditions it was determined that no significant risk or threat to public health and the environment exist and that no further action was required. This site is included in the 1996 ROD for 21 No Action Sites.

3.4.2 Hazardous Materials/Waste

3.4.2.1 Proposed Action

Hazardous Materials are regulated under 49 CFR Parts 171 - 178. Hazardous waste generation at WPAFB is regulated under 40 CFR Parts 261-262. Common hazardous materials on US Air Force bases include: fuels (aviation & motor), lubricants, hydraulic fluids, cleaning solvents, pesticides, herbicides, paints, paint thinners, acids, corrosives, caustics, compressed gases, aerosols, fire retardants, and munitions. Common hazardous wastes generated on base include: used flammable solvents, contaminated fuels and lubricants, and other waste paint related materials. The most proximal hazardous waste storage area to the project site is a 90 day storage area located at WPAFB Facility 30247.

3.4.3 Stored Fuels

3.4.3.1 Proposed Action

WPAFB has both aboveground storage tanks (ASTs) and underground storage tanks (USTs). These tanks are used to hold fuel and oils for use on the base. USTs are regulated under 40 CFR Part 280 as well as

Ohio Administrative Code Chapter 1301:7-9. ASTs are regulated under 40 CFR Part 112 Oil Pollution Prevention and the WPAFB Spill Prevention Control and Countermeasure (SPCC) Plan.

The project site does not currently include fuels stored in either ASTs or USTs. The proposed training activities will require the use of portable generators which will be operated with either gasoline or diesel fuel, however, the use of fuel will be transient and storage is not expected as a function of the project.

3.5 LAND USE

This section discusses the compatibility of the proposed alternatives with local land use plans, objectives and regulations for the alternative location under review in this EA.

3.5.1 Proposed Action

The NASIC Ground Truth Compound site is within the boundaries of the Patterson Field (Figures 1.2, 2.4.1). Land use in this area includes activities associated with airfield operations and maintenance, as well as industrial, commercial, community service, administration, outdoor recreation, and open space. The NASIC Ground Truth Compound site is an open grassy area surrounded by wooded areas to the north and east and airfield to the south and west. The land use surrounding this area is classified as airfield operations and recreational.

3.6 SOILS

Surface soils at WPAFB were formed on unconsolidated deposits, primarily alluvium, glacial outwash, glacial till, and loess. Forty separate soil mapping units occur on WPAFB (WPAFB 2007). However, development and substantial earthmoving activities have altered the natural soil characteristics in many locations and consequently most of the base has been mapped as disturbed urban land complexes. Major soil complexes represented at WPAFB include: Warsaw-Fill land complex, Sloan-Fill land complex, Miamian-Urban land complex, Fox-Urban land complex, Linwood Muck, Westland-Urban land complex, and Warsaw-Urban land complex.

3.6.1 Proposed Action

The project area for the alternative includes approximately 3.7 acres of property currently occupied by the NASIC Ground Truth Compound (Figure 2.4.1). Soils within this area are comprised exclusively of the Sloan-Fill land complex. The Sloan-Fill land complex is comprised of roughly equal parts of disturbed,

anthropogenic fill material and Sloan soils (silt loams and silty clay loams) (NRCS 2007). Slopes are generally negligible in the fill component of the complex and less than 2 percent in the Sloan component. The fill soils are generally deep (> 60 inches to root restricting layer), with low available water, low shrink-swell potential, and no zone of water saturation within 72 inches of the surface. Ponding or flooding does not normally occur within the fill component of the complex.

Conversely, soils within the Sloan component are generally very poorly drained, with high available water within the upper 60 inches of the soil profile and a seasonally high water table within 6 inches of the soil surface from November to June (NRCS 2007). This soil is developed in a floodplain environment in deep (>60 inches) alluvium and is frequently flooded. It meets the criteria for a hydric soil, but is not normally ponded. There is a moderate potential for shrink-swell movement within this soil due to the clay content and seasonal saturation of the profile.

3.7 CULTURAL RESOURCES

WPAFB has an active cultural resources management program that is administered by the Environmental Management Division of the 88 ABW and coordinated with the Ohio State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act. The WPAFB cultural resources management program is guided by an Integrated Cultural Resources Management Plan (ICRMP) that provides a programmatic basis for compliance with federal historic preservation law and Air Force historic preservation policy directives and instructions (WPAFB 2006). The ICRMP is periodically updated to remain current and underwent a major revision in 2006.

Since 1990, WPAFB has undertaken several extensive field surveys to inventory historic properties on the base. A number of these properties are currently listed, eligible, or potentially eligible for inclusion on the National Register of Historic Places. These include several pre-historic and historic archaeological sites, approximately 260 historic buildings (primarily dating to WWII or earlier) and three historic districts (including one historic military housing district). Details of the archaeological field surveys, historic building surveys, and assessments of the historic districts are contained in the ICRMP (WPAFB 2006). Based on the results of the previous surveys and the high level of disturbances from past activities in many areas of the base, all of the grounds within the project area have been surveyed for cultural resources (WPAFB 2006).

3.7.1 Proposed Action

No cultural resources are known to occur within or in close proximity to the location for the proposed project area. Between 28 October and 6 December 2001 Gray & Pape, Inc. conducted a Phase I archaeological investigation of 37.06 acres of which the proposed project area was included. Investigation in this area revealed no cultural resources.. The Ohio SHPO concurred with this determination based upon review of the ICRMP (WPAFB 2006). The project area does not occur within visual proximity to any historic district or historic landmark associated with the Dayton Aviation Heritage National Historical Park.

3.8 AIR QUALITY

3.8.1 Proposed Action

Wright Patterson Air Force Base (WPAFB) is located in the Dayton, Ohio area. Winds are predominately from the south or southwest. A summary of climate data obtained from the National Oceanic and Atmospheric Administration (NOAA) at the Dayton International Airport is included below:

Table 3.8.1: Climatological Data

Month	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Precipitation (inches)
January	34.4	19	2.6
February	39.1	22.4	2.29
March	50.2	31.2	3.29
April	61.8	40.4	4.03
May	72.2	51.2	4.17
June	81	60.3	4.21
July	84.9	64.4	3.74
August	83	62.3	3.49
September	76.3	54.7	2.65
October	64.3	43.6	2.72
November	51	34.4	3.30
December	39.9	24.4	3.08

While modeling was not within the scope of this evaluation, it should be noted that the predominant wind direction at the NASIC Ground Truth Compound is to the northeast towards on-site military use areas.

In accordance with the Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS). The NAAQS are designed to help protect human health and public welfare and limit the emissions of six criteria pollutants including: sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), ozone, and lead. In accordance with the CAA, states must develop a state implementation plan (SIP), which includes a set of regulations that the state enforce in an attempt to meet the NAAQS standards.

The Ohio EPA is responsible for developing and implementing a SIP to ensure the NAAQS are met including ambient air monitoring. WPAFB is located in the Dayton/Springfield area which is considered to be in attainment for all NAAQS parameters with the exception of 8 hour ozone and particulate matter less than 2.5 microns in size (PM_{2.5}). In order to meet the NAAQS standards, the Ohio EPA has developed a set of regulations which include exemptions for De minimus levels of emissions as well as some exempted activities. De minimus standards are air emissions levels where it is assumed no substantial degradation to air quality would occur.

The expected emissions from generator use at the ABDR site has been estimated (Appendix B) based on type, size and frequency of use as reported by WPAFB. The expected rate of emissions based on the assumptions outlined in Appendix B were found to be well below the de-minimus criteria as they relate to compliance with emissions in non-attainment area. Federal actions proposed which are substantially below the criteria are not subject to the requirements of a formal conformity determination as specified in OAC Chapter 3745-101 and 40 CFR 93.153. Additionally, the Proposed Action is intended to provide training which is generally exempted per OAC Chapter 3745-102 and 40 CFR 93.153. Based on the low estimated relative emissions derived from the estimates in Appendix B, and the fact that the emissions are associated with training activities exempted per OAC Chapter 3745-102 and 40 CFR 93.153, no conformity determination appears to be required for this project. Estimates have been prepared based on operational assumptions and are subject to change based on equipment type and operational schedules, however, the estimated emissions are sufficiently below the criteria to assert that the project is not expected to meet or exceed the emissions threshold for either PM_{2.5} or CO.

3.9 NOISE

3.9.1 Introduction

The level of noise impacts are based on the magnitude of one or more of the noise characteristics, namely, sound level (amplitude), frequency (pitch), and duration. Sound levels are measured on a logarithmic

decibel (dB) scale. This is further refined by including frequency as a “weighting” factor. An Operational Noise Manual prepared by Operational Noise Program Directorate of Environmental Health Engineering - U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), for DOD facilities, describes that the A-weighted is the primary descriptor of sound for human use and it is abbreviated as “dBA.”

The A-weighting is a frequency dependent adjustment of sound level used to approximate the natural range and sensitivity of the human auditory system, which is between 20 Hz to about 20,000 Hz. In A-weighted measurements, the frequencies are in the 1,000 to 4,000 Hz range. C-weighting, on the other hand, is used for intense signals containing low frequency sound energy (near or below the threshold of human hearing) like large gun blasts and sonic booms that tend to create annoyance through building rattles.

The Air Installation Compatible Use Zone (AICUZ) study report for Wright-Patterson Air Force Base, prepared in 1995 provides noise contours (Figure 3.9). The noise contour methodology used in the AICUZ is the Day-Night Average A-Weighted Sound Level (DNL) metric, adopted by the Environmental Protection Agency as the standard noise prediction metric. The AICUZ report contains noise contours plotted in increments of 5 dB, ranging from DNL 65 dB to DNL 80 dB. The AICUZ land use development policy recommends no residential uses in noise zones above DNL 75 dB.

Occupational Safety and Health Administration (OSHA) Regulations (Standards 29 CFR), Part Number: 1910, Occupational Safety and Health Standards, Subpart: G - Occupational Health and Environment Control, Standard Number: 1910.95 - Occupational noise exposure, provides permissible noise exposures. This standard recommends that feasible administrative or engineering controls shall be utilized when employees are subjected to sound exceeding permissible noise exposures, provided below. In the event of failure of such controls, personal protective equipment shall be provided and used to reduce sound levels within the levels provided in the table.

Table 3.9.1: Permissible Noise Exposures

Duration per day, hours	Sound Level, dBA
8	90
6	92
4	95
3	97

2	100
1.5	102
1	105
0.5	110
<0.25	115

3.9.2 Proposed Action

Based on the 1995 AICUZ Study, the project site for the Proposed Action is located in close proximity to the airfield within the 80 dB contour.

3.10 HEALTH AND SAFETY

3.10.1 Proposed Action

The NASIC Ground Truth Compound is located adjacent to the northwest of the airstrip (Figure 3.10) and is located outside of the Clear Zone and APZ1 and APZ2. No construction is planned for proposed operations at the site. Portable generators will be used at the site which will necessitate management of fuels. The likelihood of the use of radioactive materials at the AMI site is small. The only radioactive materials that would be used are sealed sources that would present little to no chance of contaminating the environment.

Health and Safety implications are expected to be minimal based on the project site location and activities described by WPAFB.

3.11 SOCIOECONOMICS

WPAFB is the largest employer in the region. WPAFB has a work force numbering approximately 20,000 people, and employs nearly 1 in 12 people in the greater Dayton area. Approximately 92 percent of the WPAFB military and civilian employees live in the Dayton-Springfield Ohio Metropolitan Statistical Area (MSA) that includes Greene, Montgomery, Clark, and Miami counties. It is the fifth largest employer in the state of Ohio and the largest employer at a single location. The base has an annual payroll of approximately \$1.25 billion. Annual expenditures by WPAFB, including services, equipment, materials, and supplies, total about \$1.35 billion. The value of secondary jobs created is estimated to be \$750 million, for a total economic impact of the base in the regional economy of \$3.4 billion. In 2005, approximately \$1.6 million of educational impact aid funds were distributed to five local school districts

that serve children of active military and civilian employees (Source: WPAFB, 2006; *Heritage to Horizons, Economic Impact Analysis, Wright-Patterson Air Force Base, Ohio.*)

Statistics provided by the Ohio Department of Development (ODOD) and Federal Census Bureau indicate that the percent of the population below poverty level in 2000 in Ohio and the three-county area was lower than the national average. On the other hand, in 2004, per capita income in Ohio and in the four-county area was below the national average. Since 2002, Ohio's unemployment rate also has been consistently higher than the national rate. In general, Montgomery and Clark counties' poverty and unemployment rates are higher than the state average, while Greene County is lower than the state average.

Table 3.11-1: Regional Economic Profile

	Average per Capita Income (2004)	Percent below Poverty Level(2000)	Percent Unemployment				
			2002	2003	2004	2005	2006
Greene	\$32,497	8.5	5.0	5.4	5.5	5.5	5.0
Montgomery	\$31,773	11.3	6.0	6.5	6.6	6.4	5.9
Clark	\$28,094	10.6	7.0	7.3	6.7	6.4	5.7
Miami	\$30,411	6.7	5.6	5.9	5.7	5.6	5.7
Ohio	\$31,161	10.6	5.7	6.2	6.2	5.9	5.4
United States	\$33,050	12.4	5.8	6.0	5.5	5.1	4.3

Population growth statistics for the four-county area are provided in Table 3.4. Greene and Miami counties show a slight increase in population, while Montgomery and Clark counties show a slight decrease in population. The estimated percent of vacant housing in 2004 for Greene, Montgomery, Clark, and Miami counties was 5.0 percent, 7.7 percent, 7.2 percent, and 5.2 percent, respectively (ODOD, 2006).

Table 3.11-2: Area Population Growth Statistics

County	Total Population for 2000(a)	Estimated Population for 2004(b)	Percent Change in Population
Greene	147,886	152,233	2.9% increase
Montgomery	559,062	550,063	1.6% decrease

Clark	144,742	142,613	1.5% decrease
Miami	98,868	100,797	1.9% increase

(a) U.S. Census Bureau (2000)

(b) Ohio Department of Development (2006)

3.12 TRANSPORTATION

3.12.1 Proposed Action

The NASIC Ground Truth Compound is located within the perimeter of WPAFB and is accessed from Riverview Road. The facility is located in a relatively remote portion of the installation which is not highly travelled. No transportation on public roads is required to deliver training supplies and generators/fuel. Further, the small number of personnel involved in training at any given training event will not significantly increase traffic in the vicinity of the proposed project site.

A pre-existing parking area is located at the proposed location outside of the gated entrance to the property.

3.13 UTILITIES

The proposed NASIC/USAFAM training facility does not consist of any permanently constructed buildings occupied by personnel during the training, and therefore does not require water and wastewater utilities. Also, the training does not require site specific communication, electrical or natural gas infrastructure. Therefore, the alternative site will not require permanent utilities

3.14 ENVIRONMENTAL JUSTICE

The purpose of *EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. The U.S. Census Bureau's 2006 American Community Survey information was referenced to identify potential Environmental Justice populations in the project area.

For Greene County as a whole, minority populations comprise 11.3 percent of the population; in Montgomery County, the proportion of minority populations is 24.5 percent; Clark County has an overall minority population of 12.2 percent. These statistics are summarized in Table 3.14-1. Overall, the minority populations are lower in Greene County compared to the national average. The proportion of

families below poverty level however is higher than national average in Montgomery and Clark Counties, which also has higher minority populations. Comparably, diversity is high within the WPAFB Census-Designated Place (CDP), and poverty level is less than 20 percent of the national average.

Table 3.14-1: Minority and Low Income Populations (in percent) for Greene, Montgomery, Clark, and Miami Counties, Ohio, 2006

Race/Ethnicity	United States	WPAFB Census Designated Place (CDP)	Greene County	Montgomery County	Clark County	Miami County
White	73.9	76.1	88.6	75.5	87.8	94.4
Black or African American	12.4	15.2	6.1	20.7	8.8	3.0
American Indian and Alaska Native	0.8	0.5	0.3	0.2	0.2	0.0
Asian	4.4	2.3	2.8	1.5	0.5	1.2
Native Hawaiian and other Pacific Islander	0.1	.1	0.0	0.0	0.0	0.0
Some other race	6.3	2.1	0.5	0.6	0.5	0.2
Hispanic or Latino (of any race) a	14.8	4.4	1.6	1.6	1.6	No data
Total Minority Populations	26.1	23.9	11.3	24.5	12.2	5.6
Proportion of Families with Income Below the Poverty Level	9.8	1.6	7.9	10.7	10.0	6.1

Source: U.S. Census Bureau, 2006 American Community Survey

a Persons of Hispanic or Latino origin may be of any race; because of this, the sum of the percentages does not equal 100

4.0 ENVIRONMENTAL CONSEQUENCES AND MITIGATION

4.1 INTRODUCTION

The Proposed Action was evaluated to identify potential environmental effects which may result from the operation of the proposed USAFSAM/NASIC training site for the following resources and/or concerns: Natural Resources, Water, Hazardous Material, Land Use, Soils, Cultural Resources, Air Quality, Noise, Health and Safety, Socio-economics, Transportation, Utilities and Environmental Justice. The No Action Alternative was also analyzed. The analysis only showed impacts to the socioeconomic factors.

4.2 NATURAL RESOURCES

4.2.1 Vegetation

This section describes the potential effects of the proposed alternative on vegetation. For purposes of the environmental assessment, it is assumed that any disturbances to vegetation would occur within the fenced boundaries of the current NASIC Ground Truth Compound site.

4.2.1.1 Potential Environmental Impacts

No significant adverse impacts to vegetation are anticipated under this alternative. Minor adverse impacts to vegetation will occur from removal of the existing herbaceous cover in areas of the proposed gravel pads for vehicle parking, and the storage building. Grasses, weeds, and other herbaceous plants that re-establish within the existing gravel pads and along the fence line will be periodically treated with an appropriate herbicide. These effects would be localized, but long-term in nature (over the life-cycle of the training facility). However, this plant community is of low diversity and does not represent a unique or high quality vegetation resource.

Minor pruning of trees and clearing of woody shrubs will periodically be necessary along the fenced boundary of the training area and around existing trees where such vegetation interferes with training or presents a safety hazard. Chemical control of invasive shrubs will be accomplished as necessary using an appropriate herbicide. No removal of larger trees from the project area will be required.

4.2.1.2 Control Measures

The use of herbicides to control vegetation within or near areas designated as sensitive such as potential habitat for rare species (see Section 3.2.3) will require prior coordination with the base Natural Resources

Manager (WPAFB 2007). In addition, herbicide use will conform to base Integrated Pest Management (IPM) practices and herbicide labeling standards for mixing and application to minimize the potential for adverse impacts to off-site vegetation.

4.2.1.3 No Action Alternative

No impact is expected if the No Action Alternative is implemented, as the proposed activities will not occur.

4.2.2 Wildlife

This section describes the potential environmental effects of the proposed alternative on wildlife resources. This analysis includes impacts that could be expected from military training activities.

4.2.2.1 Potential Environmental Impacts

No significant adverse impacts to wildlife are expected from activities in the project area. Approximately 3.7 acres of currently managed grounds will be used under this alternative for establishment of the USAFSAM and NASIC training operations. Minor amounts of grassy vegetation will be removed when digging the trench for the AMI training activities. Although this impact will be long-term (over the life cycle of the training facility), is not expected to be significant due to the relatively low quality of the existing habitat for wildlife and abundance of similar habitats in other parts of WPAFB.

The presence of military personnel and noise from training activities may temporarily displace wildlife from the immediate vicinity of the project area. This effect would be short-term in nature and the reaction of wildlife to such disturbances is likely to be species specific. Habitat generalists such as those species listed in Section 3.2.2 would likely show little overall adverse reaction to the increased presence of vehicles or military personnel. However, the recurring nature of the proposed training could limit the suitability of habitats immediately adjacent to the proposed facility for breeding bird species such as raptors that are generally less tolerant of human disturbances (Richardson and Miller 1997). The magnitude of these effects on wildlife are not expected to be significant given that most species are probably already habituated to the generally noisy environment of the base and abundant suitable habitat for wildlife exists on other parts of WPAFB.

4.2.2.2 Control Measures

Potential impacts are expected to be minor and control measures are not anticipated.

4.2.2.3 No Action Alternative

No impact is expected if the No Action Alternative is implemented, as the proposed activities will not occur.

4.2.3 Threatened and Endangered Species

This section addresses the potential impacts of the proposed alternative on the Indiana bat and the bald eagle. WPAFB has coordinated the Proposed Action and methods to minimize impact to these species with the USFWS, under Section 7 of the ESA. The USFWS concurred that the Proposed Action is not likely to adversely affect any listed species (Appendix A). This letter concludes the Section 7 consultation for the project. Similar to Section 4.2.2, this analysis considers potential impacts from training operations at the project area.

Several other species were reviewed for this project, but are not considered in detail because known populations and suitable habitat occur outside the proposed project area and the species will not be affected by military training. These include the clubshell mussel, blazing star stem borer, and other Ohio state-listed, species of concern, and species of interest.

Known suitable habitat for the eastern massasauga rattlesnake does not occur within the project area. However, to avoid inadvertent disturbances to this species, seasonal restrictions on maintenance activities will be observed in accordance with conservation provisions in the INRMP (WPAFB 2007). Removal of vegetation and disturbance of the ground will be accomplished during the winter months and before the snakes become active in the spring (typically around mid-March). Mowing of herbaceous vegetation will be restricted to the middle periods of summer days (1100-1500 hours) when snakes would normally be under cover. Mower blades will be set to cut no lower than 6 inches off the ground to avoid injuring snakes. Contractors and military personnel using the facility will also be briefed on eastern massasauga identification and instructed to contact the Natural Resources Manager if sightings of this species are made during soil disturbance or training activities. Military training operations will be rescheduled if necessary to remove snakes from the area prior to initiating training.

4.2.3.1 Indiana Bat

Potential Environmental Impacts

No impacts to the Indiana bat are anticipated from the USAFSAM training facilities under this alternative. Less than 0.25 acre of suitable habitat for this species is present within the project area. This habitat is

considered to be marginal due to the small size of the trees and highly disturbed condition of the forest vegetation. Although minor clearing of shrubs and pruning of woody vegetation may occur within the boundaries of the existing training facility, these activities will not alter the quality or quantity of existing foraging or roosting habitat for the Indiana bat.

No impacts to suitable Indiana bat habitat outside the project area are anticipated from the proposed training activities. Published research to date has not detected a measurable response in hibernating bats to noise generated by military training ranges (Hohmann personal communication 2008). Studies from Fort Leonard Wood in Missouri (cited in Shapiro and Hohmann 2005) found that Indiana bats did not alter their foraging behavior on training ranges in response to frequent, low-altitude helicopter flights and artillery firing. Although the hearing sensitivity of Indiana bats has not yet been quantified and dose-response models do not currently exist to evaluate the effects of sounds created by military activities, the periodic noise disturbances generated by the proposed EMEDS training are not expected to appreciably exceed existing ambient noise levels generated by airfield activities (currently classified as 80 dB). In addition, it is not expected that the presence of military personnel during EMEDS training operations would interfere with echolocation or foraging behavior of the Indiana bat.

Control Measures

To minimize the potential for disturbances of roosting Indiana bats, periodic maintenance activities for the training facilities, including clearing or pruning of woody vegetation, should be conducted outside the period April 1 to September 30. Additionally, use of herbicides to control vegetation during periodic maintenance of the training area will be coordinated with the WPAFB Natural Resources Manager in accordance with conservation measures for the Indiana bat contained in the INRMP (WPAFB 2007).

4.2.3.2 Bald Eagle

Potential Environmental Impacts

To date, no summer nesting or winter roosting bald eagles have been identified on the base that would be impacted by the proposed training activities (WPAFB 2007). Any eagle sightings on the base are reported to the WPAFB Natural Resources Manager. In addition, the Natural Resources Manager coordinates with the ODNR and USFWS to monitor the results of annual winter eagle surveys along the Mad River corridor to determine if additional protective measures are required for this species on WPAFB.

In 2009, a pair of nesting eagles was identified at the City of Dayton well field. Consultation with the ODNR and the USFWS (Appendix A) indicated that no impacts are expected from proposed activities based on the fact that the nesting pair is located greater than 0.5 mile from the proposed project site based on disturbance buffer guidelines provided by those agencies.

Control Measures

No control measures are deemed necessary at this time, although installation personnel should become familiar with identification of Bald Eagles to allow for proper implementation of the INRMP and observance of isolation distance guidelines provided by ODNR and USFWS.

No Action Alternative

No impacts are expected to threatened/endangered, or otherwise protected species should the No Action Alternative be selected, as the proposed activities will not occur.

4.2.4 Wetlands

No wetlands occur within or in close proximity to the project area that would be affected by this alternative. The potential for erosion or off-site transport of sediment from training activities is considered minimal, as the current vegetative cover will be maintained. No adverse effects on off-site wetlands from storm water run-off are anticipated, as the existing gravel pads are a pervious surface and will allow precipitation to continue to naturally infiltrate the soil surface.

Implementation of the No Action Alternative would not result in impacts, as the proposed activities would not occur.

4.3 WATER RESOURCES

4.3.1 Groundwater

This section describes potential impacts which may result from activities associated with the proposed action:

4.3.1.1 Potential Environmental Effects

The proposed activities at the NASIC Ground Truth Compound include training exercises with limited use of equipment, fuels (diesel and gasoline). The proposed action would consist of Aircraft Crash Investigation Training, which includes an impact trench site. The impact trench would be approximately 30 feet in diameter and 4 feet deep (water table permitting) surrounded by an adjacent mound approximately 4 feet above ground (for total depth of 8 feet). As such, the proposed operations pose minimal potential consequence to the groundwater resource.

4.3.1.2 Control Measures

If water is encountered while digging the trench, excavation would stop immediately. The trench would be covered when not in use to prevent the attraction of water fowl and vectors, such as, mosquitoes. The site would be monitored to ensure the trench does not fill with water when not in use.

4.3.2 Surface Water

The proposed USAFSAM/NASIC Training Site is located at an approximate elevation of 802 ft MSL, with an overall relief of less than 2 feet across the 3.7 acre parcel. The proposed project site is located approximately 800 feet east-southeast of the Mad River. Based on ground surface contours in the area, storm water is expected to flow northwest towards the river via a small swale (Figure 3.3.2).

4.3.2.1 Potential Environmental Impacts

The potential for erosion and transport of solids is negligible and no impact to the Mad River is likely to occur.

4.3.2.2 Control Measures

No significant impacts are expected, however, best management practices should be employed during development and operation of the site to limit erosion and run-off from the area.

4.3.3 Floodplain

The Miami Conservancy District (MCD) was consulted (Appendix A) regarding the scope of the proposed project at the NASIC Ground Truth Compound. No significant impacts to the floodplain or the Mad River are expected under this alternative. Consequently, no control measures are proposed.

4.3.4 No Action Alternative

The No Action Alternative may include use of the previously evaluated Warfighter Training Center which also occurs in a floodplain. No impact is expected from either use of the previously assessed Warfighter Training Center or implementation of the proposed activities at an off-site location.

4.4 HAZARDOUS MATERIALS/WASTE

4.4.1 Potential Environmental Impacts

Hazardous wastes generated during training are expected to be minimal or non-existent. Most debris produced as a result of training activities is expected to be classified as municipal solid waste or other non-hazardous material consistent with wastes generated at other locations on the installation.

WPAFB personnel reports that a combination of diesel and gasoline operated generators will be used at the training site. The estimated size of the fuel tanks for typical generators may range from 20 to 300 gallons in capacity. Spills of fuel may result in clean-up debris which requires characterization in accordance with 40 CFR Parts 261 and 262.

Some materials used during training will be Hazardous Materials as defined in 49 CFR Part 172 and may require special handling such as compressed gas cylinders and fuel. Examples of compressed gases which may be used at the site include Helium, used to fill weather balloons on an infrequent basis, and some fire extinguishers. Incidental training associated with the categorically excluded EOD training activities (Appendix E) and Military Dog Training (Appendix F) identified in Section 1.1 may require use of hazardous materials including ammunition defined in Appendix E, up to 3 lbs of Hazard Cass 1.1 explosives, and small amounts of controlled substances. These activities may also result in the generation of small amounts of waste material. Management of these raw products and waste materials will be conducted in accordance with AFMAN 91-201, 88 SFSOI 31-202 and the Controlled Substances Act respectively as well as 49 CFR Part 172.

Sharps (including hypodermic needles, syringes and scalpel blades) generated during the USAFSAM field training activities would be managed and disposed of as regulated medical waste in accordance with OAC Rule 3745-27-30.

4.4.2 Control Measures

Waste generated as a result of spills or releases of fuel should be promptly collected, containerized, labeled and characterized through either generator knowledge or analysis in accordance with 40 CFR Parts 261 and 262. Adequate spill response equipment including booms, absorbent pads, shovels and other similar spill control devices should be available near the generator staging area for use should spills occur. In addition, the facility Spill Prevention Countermeasures and Control Plan (SPCC) should be reviewed to determine if the proposed activities at the NASIC Ground Truth Compound require inclusion in the plan.

All regulated Hazardous Materials should be packaged, transported, loaded and unloaded in accordance with 49 CFR Parts 171 – 178 if transported on public access roads. Personnel identified as Haz Mat employees as defined in 49 CFR 171.1 must be properly trained in accordance with 49 CFR 172.704.

4.4.3 No Action Alternative

Implementation of the proposed activities at the previously assessed Warfighter Training Center is not expected to result in impacts related to hazardous materials and/or hazardous waste. Implementation of the proposed activities at an off-site location will result in the transport of materials which may be classified as DOT regulated hazardous materials. The quantities of DOT hazardous materials are expected to be within the limited quantities authorized by the Materials of Trade Exemption as defined in 49 CFR Part 171.8 and are not expected to result in significant environmental or regulatory impacts.

4.5 LAND USE

The current land use classification of the NASIC Ground Truth Compound area is recreational. The proposed action is similar to activities currently conducted at the Compound and is not expected to have a significant impact on land use. No control measures are proposed. Implementation of the proposed activities at the previously evaluated Warfighter Training Center is consistent with current land use and not expected to result in impact. Selection of the No Action Alternative will not impact land use as the activities will not occur on the base.

4.6 SOILS

This section describes the potential effects of each project alternative on soil resources. For purposes of the EA, it is assumed that the entire NASIC Ground Truth Compound site will be maintained by regular mowing of the herbaceous vegetation. Potential minor impacts during site preparation/excavation.

Impacts would be minimized because erosion and siltation controls would be implemented. . As a result, adverse impacts to soil resources are not expected under this alternative.

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant impacts at that location. Selection of the No Action Alternative would not result in impacts to soil resources as the proposed activities would not occur on the base.

4.7 CULTURAL RESOURCES

Based upon the Phase I archaeological investigation of 37.06 acres performed between 28 October and 6 December 2001 by Gray & Pape, Inc., of which the proposed project area was included, no cultural resources are known to occur within or in close proximity to the proposed location. Therefore, no impacts to historic properties are expected. A letter was sent to SHPO on 17 Nov 09 requesting concurrence with a no affect finding. SHPO's response dated November 23, 2009 (Appendix A) provides concurrence that no cultural resources have been identified within the vicinity of the NASIC Ground Truth Compound. In the event that archaeological resources are inadvertently discovered during training operations, the Cultural Resources Manager would be notified immediately and further ground disturbing activities would cease in that area. Identified resources would be managed in compliance with Federal law and Air Force regulations.

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant impacts at that location. Selection of the No Action Alternative would not result in impacts to local cultural resources as the proposed activities would not occur on the base.

4.8 AIR QUALITY

The potential impact on local air quality resulting from operation of the NASIC/USAFAM training facility is discussed below.

4.8.1 Potential Environmental Impacts

Emissions associated with c operation of the USAFSAM/NASIC field training site are expected to be minimal. Emissions which may be created are expected to be in the form of fugitive dust and/or CO from combustion of fuels.

For the purposes of estimating the potential environmental impact of training operations on air quality, two different scenarios were evaluated: routine training activities and a one-time large scale 5 day training event. During USAFSAM/NASIC field training activities, portable generators will be used to power testing and training equipment. For the purposes of estimating emissions, it is assumed that two diesel generators (20 kW) and six gasoline generators (6 kW) may be operating at any one time for a period of three hours per day. Using the estimated diesel and gasoline generator size and number of generators expected to be used at any given time, a conservative emissions estimate has been prepared using the Environmental Protection Agency (EPA) emissions factors listed in AP-42 Fifth Edition, Volume 1. The estimate can be found in Appendix B. Based on these estimates, emissions from the generators will not be considered De minimus as that definition relates to permitting in accordance with OAC 3754-15-05 (i.e. expected to generate greater than 10 lbs/day of CO), however portable generators are considered to be exempt from permitting requirements.

The emissions source will also need to be added to the current Title V permit during the next required renewal period. According to OAC Rules, the renewal must be submitted no later than 6 months before the expiration date. As the current Title V expiration is February 17, 2009, at the time of this report submittal, the renewal application has already been submitted. As such, the emissions unit will likely be added during the next renewal period scheduled for 2013. Until the emissions unit is added to the Title V permit, the additional source will be considered an off permit change.

4.8.2 Control Measures

WPAFB may choose to limit the size of the generators and/or the operating schedule to create a scenario in which the emissions from the unit(s) are within De minimus limits (10 lbs/day of regulated air contaminants). An estimate was prepared using a combination of size of type of generators that could be used to fall below the De minimus emissions limit (i.e. remain below 10 lbs/day maximum emissions).

Using the generator types/sizes provided by WPAFB personnel, it is estimated that the maximum size of each generator that may be used for a three hour period without exceeding the 10 lbs/day maximum

emissions, is one 5 kW gasoline and one 20 kW diesel generator. Other generator combinations which may allow WPAFB to meet the De minimus requirements include five 1 kW gasoline generators or two 10 kW diesel generators, etc. (Appendix B).

Should fugitive dust become an issue during training, it may be controlled with water or other dust suppression chemicals in accordance with OAC 3745-17-08, Restriction of Fugitive Dust.

4.8.3 No Action Alternative

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant impacts at that location. Selection of the No Action Alternative would not result in impacts to local air quality as the proposed activities would not occur on the base.

4.9 NOISE

4.9.1 Potential Environmental Impacts

The USAFSAM/NASIC training predominantly involve training personnel conducting exercises with the aid of mobile equipment and temporary tent structures. The training period is proposed for approximately three (3) hours a day for five (5) days a week during a course of three (3) weeks annually. This training period is denoted as Training-I for discussion purposes. Another level of training proposed is for duration of approximately two (2) hours per day for four (4) to five (5) days annually. This training period is denoted as Training-II for discussion purposes.

Other than the noise originating from human interaction and equipment operation during the course of training, the major source of noise determined is from use of portable generators. The estimated size of generators to be used in training-I range from approximately 1 to 20 kW diesel or gasoline generators, whereas, training-II may require a diesel generator estimated at 1.25 MW.

A representative specification (Cummins) for a generator of similar size to those used in training reports expected noise levels for sound-attenuated and weather-protective enclosures as follows at a distance of 7 meters (approximately 23 feet):

- 20 kW Diesel Generator: Maximum of 80 dBA
- 1 MW Diesel Generator: Maximum of 90 dBA.

Under the AICUZ, this alternative location falls under 80dB-A DNL contour, as determined in the 1995 study (Figure 3.9). Because, the training operations at the site is only for a few days in a year, the Day-Night Average A-Weighted Sound Level (DNL) would be lower than 80dB-A. The sound level of 80dB-A for 3 hours a day in training-I, as determined in Section 3.9, is within the limit of 90dB-A established by OSHA (Table 3.9.1) Similarly, the sound level of 90dB-A for 2 hours a day in training-II, as determined Section 3.9, is within the limit of 100 dB-A.

Based on the above discussion, significant noise impacts are not expected.

4.9.2 Control Measures

No control measures are proposed.

4.9.3 No Action Alternative

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant impacts at that location. Selection of the No Action Alternative would not result in impacts to due to noise as the proposed activities would not occur on the base.

4.10 HEALTH AND SAFETY

4.10.1 Potential Environmental Impacts

Personnel will be expected to manage generators and fuel. Incidental activities associated with EOD training conducted under a categorical exclusion (Appendix E) and Military Dog Training conducted at the site (Appendix F) will be conducted in accordance with AFMAN 91-201 and 88 SFSOI 31-202 respectively to minimize the potential for Health and Safety impacts. Adherence to standard USAF protocols and OSHA requirements is expected to provide adequate protection of personnel. In addition, if explosives are used in the area during extremely dry conditions, extra precaution will be taken to ensure that fires in dry grass do not occur. Consequently, no control measures are deemed necessary.

4.10.2 Potential Environmental Impacts

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant impacts at that location. Selection of the No Action Alternative may results in training activities being conducted at an alternate, off-base location. Additional travel may be

required for personnel, which will add minor level of risk associated with off-site travel on public roads, however, significant impacts to Health and Safety conditions are not expected.

4.11 SOCIOECONOMICS

4.11.1 Proposed Action

Selection of this alternative location will have a negligible effect on short term or long term employment, as construction is not planned and training will be conducted primarily with personnel already stationed at the installation.

Substantial infrastructure required for training, including fencing around the entire compound and Airplane shells is pre-existing at the NASIC Ground Truth Compound therefore minimizing cost of development of the property for the proposed use.

4.11.2 No Action Alternative

The alternative to establishing the proposed EMEDS activities at the NASIC Ground Truth Compound will be to establish the operations at the Warfighter Training Center which was evaluated in March, 2008 and found to be a suitable location for the EMEDS training activities or implementing the No Action Alternative in which activities are conducted at an off-base location. Use of the Warfighter Training Center could potentially result in minimal economic benefits as short-term labor and resources would be required to transport the aircraft parts from Brooks City Base to WPAFB as opposed to the No Action Alternative which would result in no positive economic impact.

4.12 TRANSPORTATION/TRAFFIC

The NASIC Ground Truth Compound is located off of Riverview Road in a remote, relatively lightly travelled location on the installation (Figure 2.4.1). Vehicular traffic to the NASIC Ground Truth Compound for training will be intermittent due to the limited number of training events which will occur each year. Vehicles traveling to the site for training will be in a small convoy and should not have a great impact on traffic in the area.

Transportation of fuels to and from the alternative location will be confined to roads restricted to base traffic and will not require movement of Hazardous Materials on public roads. Incidental training activities associated with categorically excluded EOD activities (Appendix E) and Military Dog Training

(Appendix F) described in Section 1.1 may require transportation of hazardous materials and controlled substances on base controlled roadways. Hazardous materials may include ammunition defined in Appendix E and small amounts of Class 1.1 explosives necessary to conduct training exercises involving detonations of up to 3 lbs of Class 1.1 material. Limited amounts of controlled substances may also be used for Military Dog Training and will be transported in cooperation with the necessary authorities.

Significant impacts are not anticipated from transportation, traffic or parking as related to use of this alternative location for the purposes of NASIC/USAFAM training activities. Consequently, no control measures are proposed.

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant transportation impacts at that location. Selection of the No Action Alternative may result in training activities be conducted at an alternate, off-base location. Additional off-site transportation of training supplies and equipment may be required which will add minor risk associated with off-site travel on public roads, however, significant impacts to transportation conditions are not expected.

4.13 UTILITIES

No permanent utilities are reportedly required for operation of the NASIC/USAFAM training facility. No impacts are expected from implementation of the proposed activities at the NASIC Ground Truth Compound, the previously evaluated Warfare Training Center or implementation of the No Action Alternative.

4.14 ENVIRONMENTAL JUSTICE

Any operation associated with the proposed NASIC/USAFAM/USAFAM field training facility would occur within the boundaries of WPAFB. As discussed in Section 4.11, there would be negligible short-term and long-term impacts on the local and regional economy from the operation of the facilities. There is little potential for the proposed activities to have a disproportionately high adverse human health or environmental effect on low-income and minority populations that are located outside the boundaries of WPAFB.

Implementation of the proposed activities at the previously evaluated Warfighter Training Center was determined to pose no significant environmental justice impacts. Selection of the No Action Alternative

will have no affect on local environmental justice conditions as the activities would not be conducted at the base.

4.15 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable impacts which will result from development of the NASIC/USAFAM Training Facility at the NASIC Ground Truth Compound at WPAFB are summarized below.

4.15.1 Vegetation

No significant loss of vegetation is expected within the scope of the Proposed Action as the usage of the property is expected to be consistent with historic use without additional required construction.

4.15.2 Hazardous Materials / Waste

Hazardous materials will be transported to the proposed location via on-site roads. Transportation of materials such as fuels, compressed gases will, unavoidably, result in exposure of these materials for spills and/or accidents.

4.15.3 Land Use

No land use impacts are expected.

4.15.4 Air Quality

Air emissions will occur as a consequence of operating the proposed NASIC/USAFAM training operation. Based on the number and type of generators used, emissions may exceed the De minimus limits, therefore requiring permitting.

4.15.5 Noise

Intermittent noise resulting from human activity, generator operation and miscellaneous equipment operation will occur as a result of conducting the proposed activities.

4.16 RELATIONSHIP OF SHORT TERM USES AND LONG TERM PRODUCTIVITY

Short term impacts of the proposed NASIC/USAFAM activities at the NASIC Ground Truth Compound at WPAFB include those effects of operation of individual training events at the site. Long term use of

property for the purposes of NASIC/USAFAM training activities are not expected to pose long term impacts unless chronic spillage of fuel results from the operations.

Long term productivity of training at the installation and long term effectiveness of personnel in completing mission requirements will be enhanced by establishing the NASIC/USAFAM Training site at WPAFB. The presence of the appropriate infrastructure at the proposed alternative location will allow for immediate use of the area to begin accomplishing the training goals.

4.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible environmental changes and irretrievable commitment of resources which would result from the proposed action may include consumption of resources such as energy and water; human resources (labor); and elimination of habitat or other natural resources are discussed in this section.

4.17.1 Natural Resources

No additional land clearing or construction is expected with implementation of the proposed activity, therefore, no loss of vegetation or other natural resources is anticipated.

4.17.2 Human Resources

Operation of the proposed facility will require investment of human resources in the form of labor activities required to operate and maintain the facility. Assignment of personnel to operate and maintain the facility may either re-allocate labor from other activities at the installation, or may involve allocation of outside labor. As the compound is already in use for similar purposes, this allocation of human resources is expected to be insignificant.

4.17.3 Energy Resources

Maintenance and operation of the facility would require an expenditure of energy resources. These include fuel utilization for the purposes of transporting equipment to and from the training area; and fuel required to operate the portable generator units. Of these, the most significant resource expenditure will be the diesel and/or gasoline required to operate generators.

4.17.4 Land Use

Establishing the proposed activity at the NASIC Ground Truth Compound at WPAFB will not affect land use in a significant manner.

4.18 CUMULATIVE IMPACTS

Section 1508.7 of NEPA describes Cumulative Impact as an effect on the environment which results from the incremental impact of an action when added to other past, present and future actions. This section is intended to describe how individual impacts expected as a result of the proposed action will affect the environment when considered in conjunction with direct and indirect effects of other activities at the installation.

An alternate location (Warfighter Training Center) was previously selected as an appropriate location to conduct the EMEDS training activities proposed to be conducted at the NASIC Ground Truth Compound. The cumulative impacts of the training activities described in this document have been assessed in the EA prepared in March, 2008. As such, no additional cumulative impacts beyond those described in the March 2008 EA are anticipated as a result of the action of re-locating the training operations to the alternative location proposed in this document with the exception of an impact on cost associated with development of the training grounds. Besides the activities mentioned in this EA, WPAFB does not have any current or future actions that would attribute to cumulative impacts to the NASIC Ground Truth Compound.

Most of the activities proposed at the NASIC Ground Truth Compound were previously implemented and may be considered to represent current conditions rather than new activities at the site. Therefore, cumulative impacts which may affect the site include new activities associated with the limited EOD activities and military working dog training described in Section 1.1 of this EA.

The limited EOD activities covered by the categorical exclusion (Appendix E) will add intermittent noise to the existing activities as well as limited emissions resulting from detonation of limited amounts of explosives and incremental Health and Safety considerations. The limited scope of EOD activity is not, however, expected to significantly impact the overall conditions at the NASIC Ground Truth Compound.

Similarly, the addition of Military Dog Training to the scope of activities conducted at the NASIC Ground Truth Compound is not expected to add significant incremental impacts.

Development of the Warfighter Training Center location would require that labor be expended to relocate airplane shells to the area for the purposes of conducting training exercises based on the results of the previous EA. Location of the training activities at the NASIC Ground Truth Compound will have a positive impact by removing the need for this expenditure of financial and human resources.

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Wright-Patterson Air Force Base Wetland Management Plan (2005 Update), BHE. 2005.

8 ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
88 ABW	88 th Air Base Wing
AAFES	Army and Air Force Exchange Service
ACHP	Advisory Council on Historic Preservation
AF	Air Force
AFB	Air Force Base
AFI	Air Force Instruction
AFIMT-813	Air Force Instruction; Request for Environmental Impact Analysis
AFMAN	Air Force Manual
AFOSH	Air Force Occupational and Environmental Safety, Fire Protection, and Health Program
AFPD	Air Force Policy Directive
AFRC	Air Force Reserve Command
AFSC	Air Force Safety Center
AGE	Aerospace Ground Equipment
AGL	Above Ground Level
AICUZ	Air Installation Compatible Use Zone
AOC	Area of Concern
APE	Area of Potential Effects
APZ	Accident Potential Zone
AQCR	Air Quality Control Region
AR	Aerial Refueling
ARB	Air Reserve Base
ART	Air Reserve Technician
ASC	Aeronautical Systems Center
AST	Aboveground Storage Tank
ATC	Air Traffic Control
BAI	Backup Aircraft Inventory
BAM	Bird Avoidance Model
BASH	Bird/Wildlife Aircraft Strike Hazard
BGS	Below Ground Surface
BHE	BHE Environmental, Inc.
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAA	Clean Air Act
	Consolidated Aircraft Maintenance Squadron
CATEX	Categorical Exclusion
CATM	Combat Arms Training and Maintenance Facility
CDP	Census-Designated Place
CEA	
CEAN	
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act

CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
CZ	Clear Zone
dB	Decibel
dBA	A-Weighted Decibel
DLSME	Defense Land Systems and Miscellaneous Equipment
DNL	Day-Night average A-weighted Sound Level
DOD	Department of Defense
DOT	Department of Transportation
EA	EA: Environmental Assessment
EFDZ	Earthfill Disposal Zone
EIAP	Environmental Impact Analysis Process
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EMEDS	USAF School of Aerospace Medicine Expeditionary Medical Support
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESMP	Endangered Species Management Plan
ESQD	Explosive Safety Quantity Distance
ESZ	Explosive Safety Zone
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FICON	Federal Interagency Committee on Noise
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
ft ²	square feet
GIS	Geographic Information System
HUD	U.S. Department of Housing and Urban Development
GPS	Global Positioning System
INRMP	Integrated Natural Resources Management Plan
I	Interstate
ICRMP	Integrated Cultural Resources Management Plan
IPM	Integrated Pest Management
IRP	Installation Restoration Program
LF	Landfill
mg/m ³	milligrams per cubic meter
MCD	Miami Conservancy District
MSA	Metropolitan Statistical Area
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSL	mean sea level
MTR	military training route

NAAQS	National Ambient Air Quality Standards
NASIC	National Air and Space Intelligence Center
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NO ₂	Nitrogen dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NO _x	Nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRCC	National Regional Climate Center
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NWI	National Wetlands Inventory
ODNR	Ohio Department of Natural Resources
ODOD	Ohio Department of Development
OEPA	Ohio Environmental Protection Agency
ORAM	Ohio Revised Administrative Code
OHPO	Ohio Historic Preservation Office
OSHA	Occupational Safety and Health Administration
OU	Operating Unit
PM _{2.5} , 10	particulate matter less than or equal to 2.5 or 10 microns
POL	petroleum, oil, and lubricants
ppm	parts per million
RFTS	Remote Field Training Site
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SEL	sound exposure level
SFSOI	Security Forces Squadron
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPCC	Spill Prevention Countermeasures and Control
SR	State Road
SWPPP	Storm Water Pollution Prevention Plan
TNC	The Nature Conservancy
TNW	Traditionally Navigable Waters
tpy	tons per year
TSD	Treatment, Storage, and Disposal
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAFSAM	U.S. Air Force School of Aerospace Medicine

USDA-WS	U.S. Department of Agriculture-Wildlife Services
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOC	volatile organic compound
yd ²	square yards
µg/m ³	micrograms per cubic meter
WPAFB	Wright-Patterson Air Force Base

FIGURES

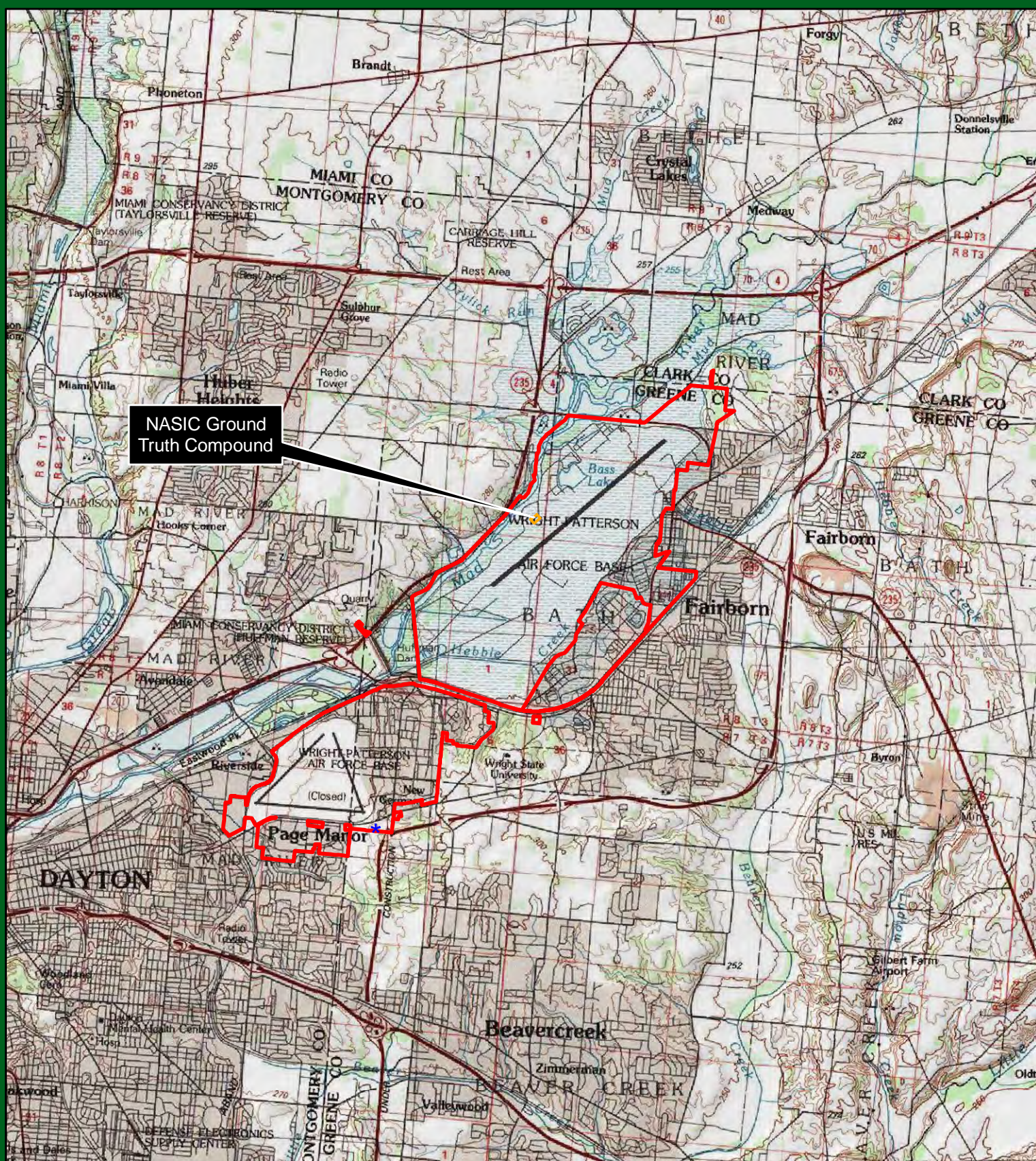


Figure 1.1: Project Location and Topography
Wright-Patterson Air Force Base - NASIC Ground Truth Compound

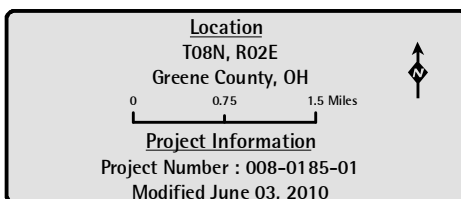
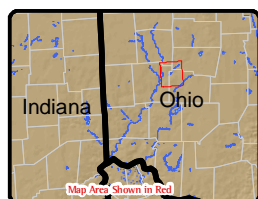
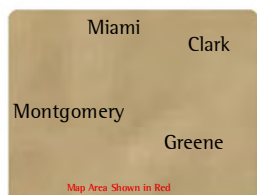




Figure 2.4.1: Environmental Features
Wright-Patterson Air Force Base - NASIC Ground Truth Compound



Location
 T08N, R02E
 Greene County, OH
 0 150 300 Feet

Project Information
 Project Number : 008-0185-01
 Modified June 03, 2010

Legend

- Installation Boundary
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
 Natural Resources Consulting, Inc.
 209 Commerce Parkway
 P.O. Box 128
 Cottage Grove, WI 53527-0128
 phone: 608-839-1998
 fax: 608-839-1995



Figure 2.4.1a: Conceptual layout of Aircraft Mishap Investigation Activities
Wright-Patterson Air Force Base NASIC Ground Truth Compound



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified June 03, 2010

Legend

- Installation Boundary
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway



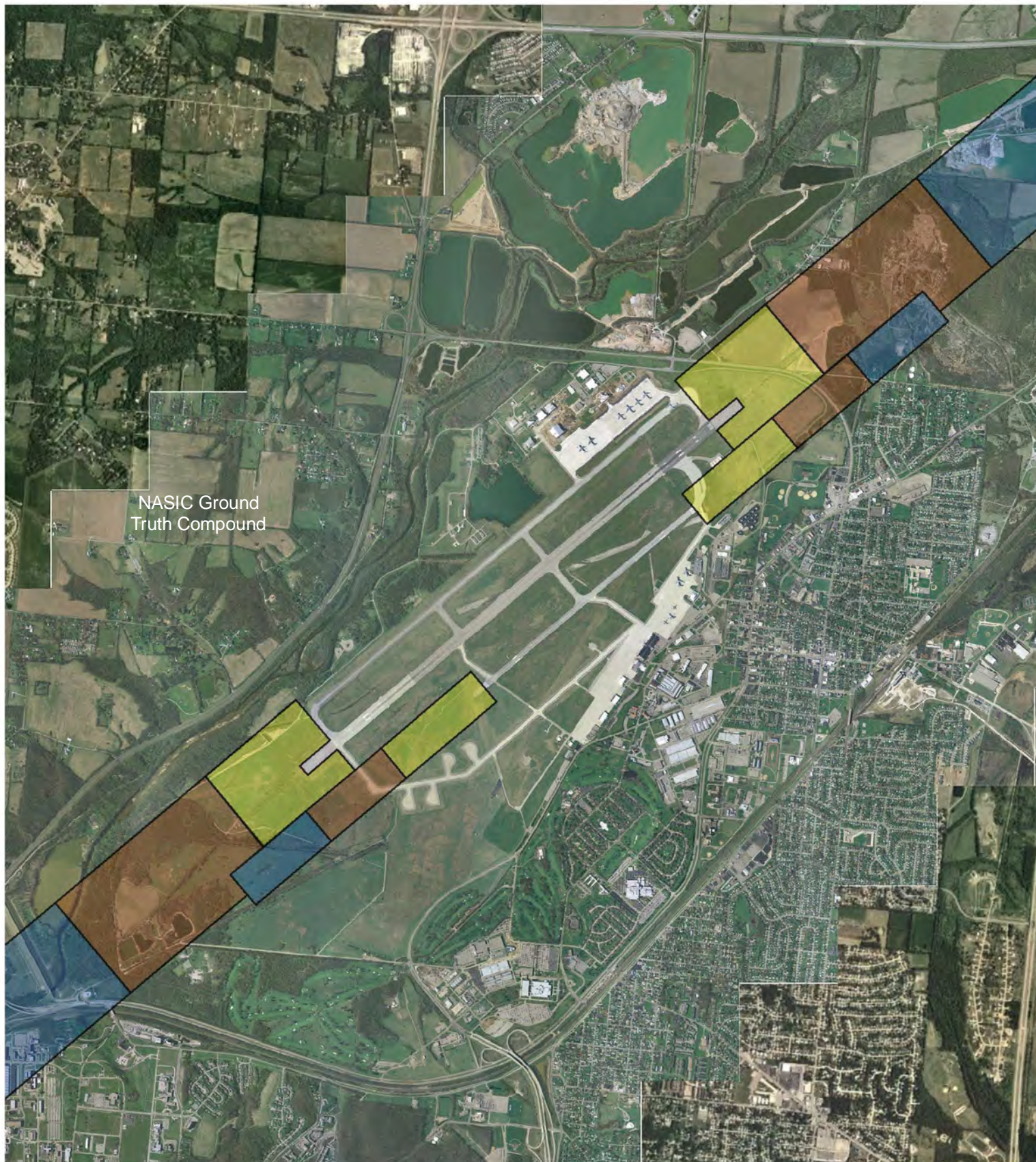


Figure 3.10. Control Zones
Wright-Patterson Air Force Base – NASIC Ground Truth Compound



Location
T08N, R02E
Greene County, OH
0 0.25 0.5 Miles

Project Information
Project Number : 008-0185-01
Modified June 03, 2010

Legend

Project Location
Installation Area

Control Zones

Clear Zone
APZ 1
APZ 2

NRC
Natural Resources Consulting, Inc.

209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1998
fax: 608-839-1995



**Figure 3.2.3-1. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base – NASIC Ground Truth Compound**



Location
T08N, R02E
Greene County, OH
0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified June 03, 2010

Legend

- Project Location
- Installation Boundary
- Bald Eagle
- Blazing Star Stem Borer
- Waterway





**Figure 3.2.3-2: Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base – NASIC Ground Truth Compound**



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified June 03, 2010

Legend

Project Location

Installation Boundary

Indiana Bat

Clubshell

Waterway





Figure 3.3.2: Contour and Water Features
Wright-Patterson Air Force Base - NASIC Ground Truth Compound



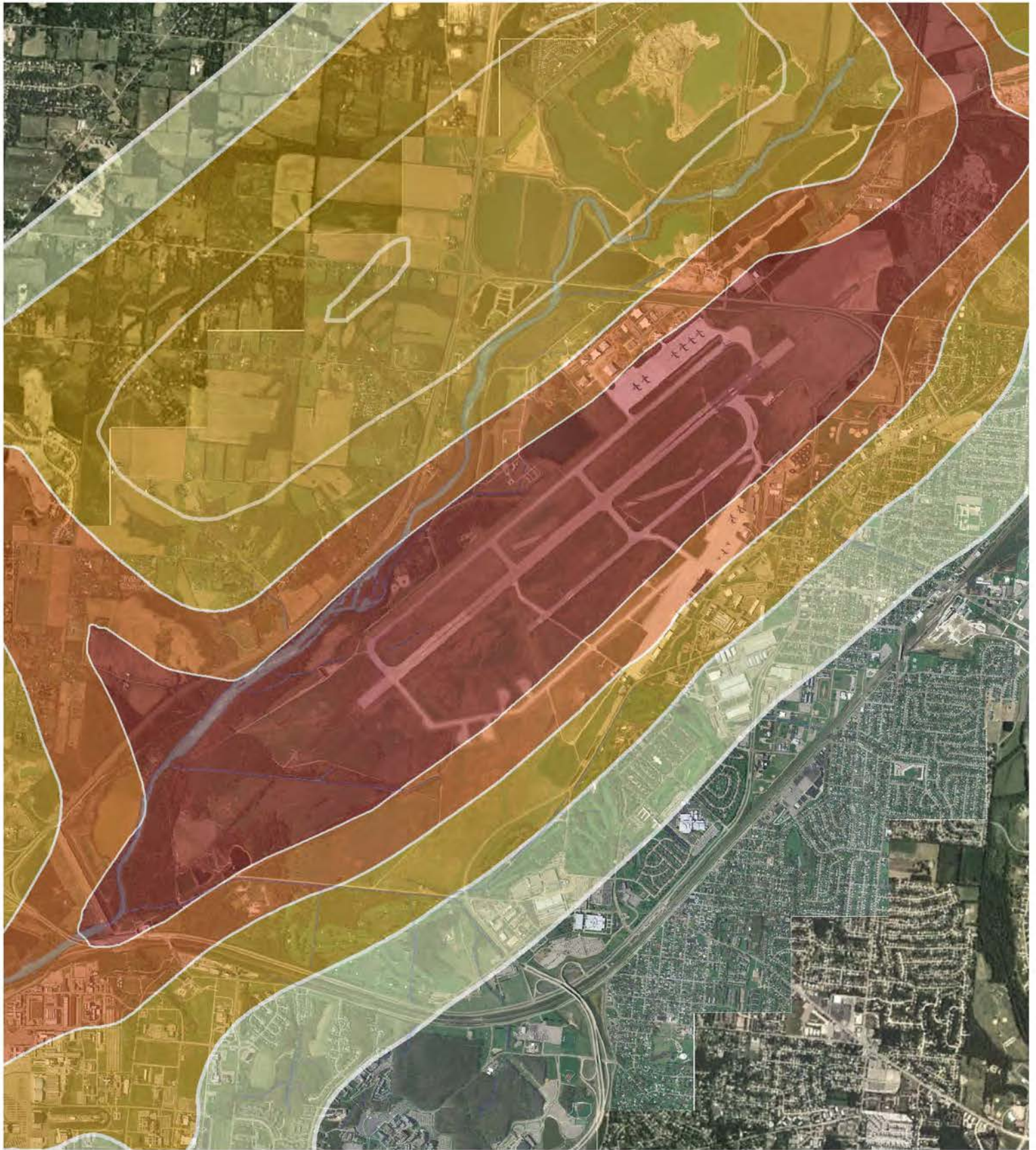
Location
 T08N, R02E
 Greene County, OH
 0 150 300 Feet

Project Information
 Project Number : 008-0185-01
 Modified June 03, 2010

Legend

- Installation Area
- Waterway
- Major Contour
- Minor Contour





**Figure 3.9: Mean dB Level Contour Data
Wright-Patterson Air Force Base – NASIC Ground Truth Compound**



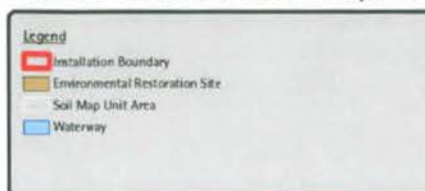
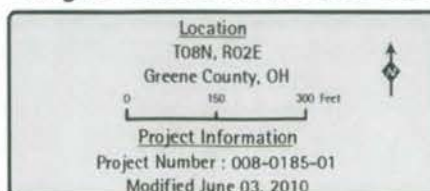
Location
 T08N, R02E
 Greene County, OH
 0 0.25 0.5 Miles
Project Information
 Project Number : 008-0185-01
 Modified June 03, 2010

Legend	Mean dB Level Contour	
	80 dB	70 dB
Project Location	80 dB	70 dB
Installation Boundary	75 dB	65 dB
Waterway		





Figure 4.0: Conceptual Layout of Aircraft Mishap Investigation Activities
Wright-Patterson Air Force Base NASIC Ground Truth Compound



APPENDIX A

CONSULTATION LETTERS

Appendix A
Consultation Summary

US Fish and Wildlife Service

Date	Nature of Correspondence	Consultation Issues	Outcome
9/23/2008	WPAFB Consultation Request	WPAFB request for consultation on NASIC/EMEDS Proposed Action	
10/16/2008	WPAFB Consultation Request	Additional information provided to assist in initial request	
3/18/2009	FWS Response	ABDR Site (aka NASIC Ground Truth Compound) is within the range of the Indiana bat, eastern massasauga rattlesnake, snuffbox mussel and clubshell mussel; Confirmed that there are no protected areas within the vicinity of the project	Incomplete
12/3/2009	FWS Response (e-mail)	Determination that no impact is expected for threatened or endangered species	Consultation Complete; No impacts are expected

9/23/08

WPAFB Consultation Request



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

23 September 2008

88 ABW/CEVY
1450 Littrell Road, Building 22
Wright-Patterson AFB, OH 45433-5209

Dr. Mary Knapp
U.S Department of Interior
Fish & Wildlife Service
6950 Americana Pkwy, Suite H
Reynoldsburg, OH 43068-4127

Subject: Section 7 Endangered Species
Environmental Assessments
Wright Patterson AFB
Greene County, Ohio

Dear Dr. Knapp:

Wright-Patterson AFB is preparing two Environmental Assessments for two projects designed to support training efforts on the base.

The first EA will evaluate the proposed construction and operation of the 88 ABW/CED Explosives Ordnance Disposal (EOD) proficiency training and emergency disposal range. The proposed locations for the EOD range are

- I. Former EOD range (Area C of WPAFB)
- II. Property north of Hebble Creek Road and west of the Huffman Prairie Flying Field (Area C of WPAFB); and
- III. Sand Hill (north of Area C of WPAFB).

The second EA will evaluate the proposed National Air and Space Intelligence Center (NASIC) and the U.S. Air Force School of Aerospace Medicine Expeditionary Medical Support (USAFSAM EMEDS) field training activities at the former Aircraft Battle Damage and Repair (ABDR) Facility site.

Attachment 1 provides mapped locations of the alternatives considered. Known locations of wetlands and potential endangered species habitats in the vicinity of the alternative site locations are provided in Attachment 2.

As part of these assessments, we are seeking informal consultation with the Fish and Wildlife Service in compliance with Section 7 of the Endangered Species Act in support of the projects designed to support training efforts at WPAFB.

The first EA (1), EOD operation, involves providing proficiency training to EOD personnel. At worst case this involves 2 days/week, 4 hours/day of training. The four hours involve setting up/training for the detonation of explosive materials (maximum explosive material detonated is five pounds C4 at one time). The actual detonation/explosion takes less than one second. The "clear" zone around the detonation site is a 500 ft radius. The detonations will be performed inside a walled containment barrier, most likely concrete. On an emergency basis only, this site will also be used to detonate unexploded ordnance that

come from the base or also from the public; this is a random occurrence with a frequency of maybe once/month. This project would involve constructing a precast concrete barrier six feet tall, approximately 46 feet long x 24 feet wide, with two open entrances. Two smaller barriers (approximately 6 feet long x 6 feet wide x 4 feet high) to contain tools and explosive materials, and a gravel access road and parking area would also be constructed. See Attachment 3 for examples of the barriers.

The second EA (2) involves utilizing the existing facility of the former ABDR, and minor site improvements for mobile medical facility training. Only personnel and portable equipment, such as generators and medical equipment, would be used at this site.

Thank you for your consideration. Please return your comments to me at the above address. If you have any questions, please contact me at (937) 257-0177 or by email at Raymond.Baker@wpafb.af.mil.

Sincerely

A handwritten signature in blue ink, reading "Raymond F. Baker". The signature is fluid and cursive, with the first name "Raymond" being more prominent than the last name "Baker".

RAYMOND F. BAKER
Chief, Quality Branch
Environmental Management Division

cc: Jeff Jones/ Tetra Tech:

Attachments:

1. USGS Quadrangle Map
2. Wetlands and Endangered Species Habitat Map
3. Barrier Photos and Drawing

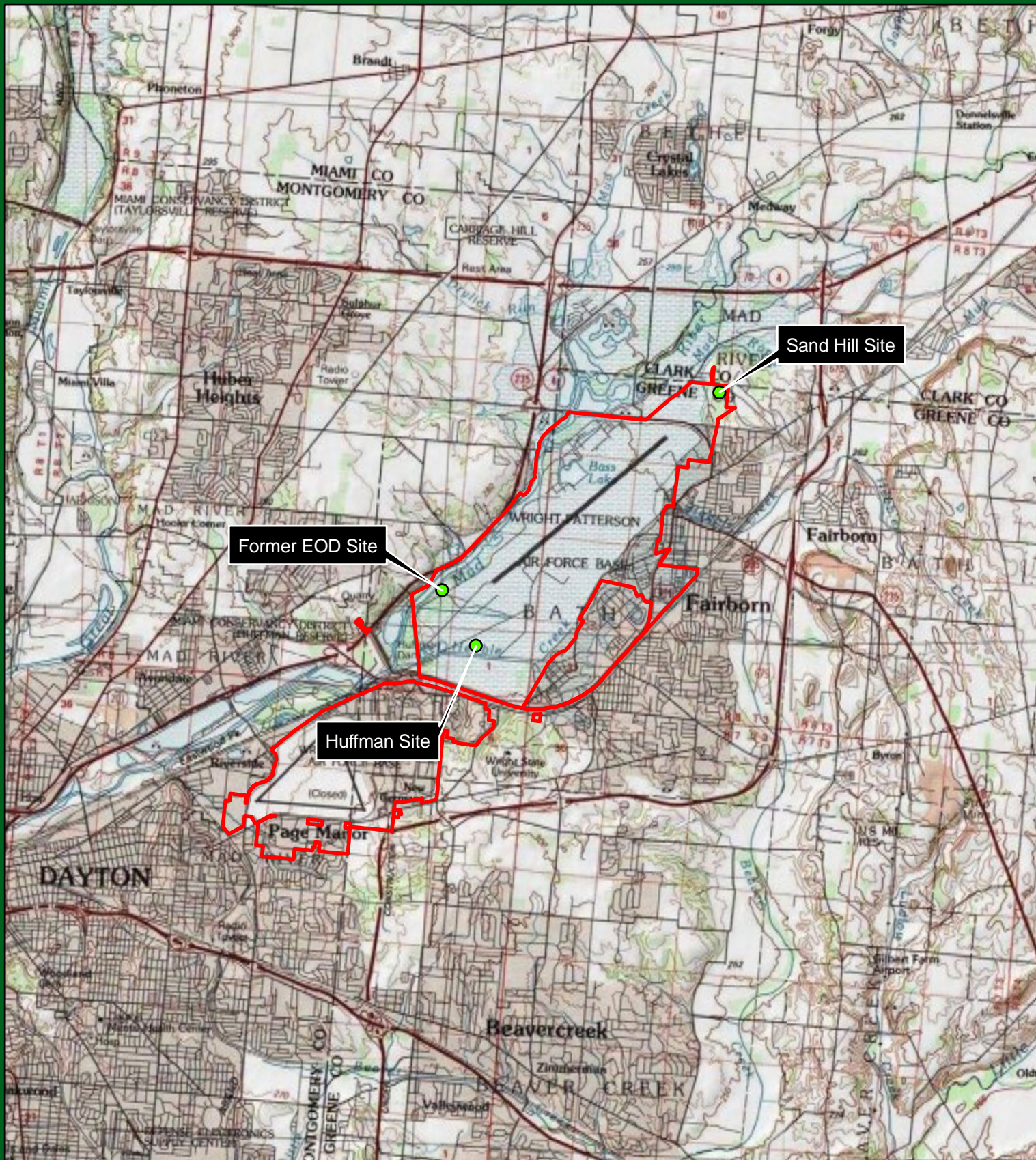


Figure 1. Project Location and Topography
Wright-Patterson Air Force Base

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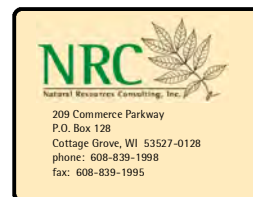
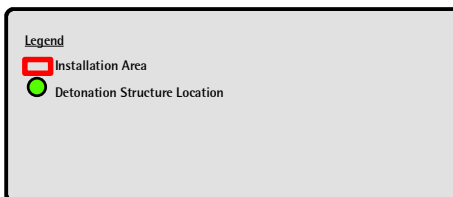
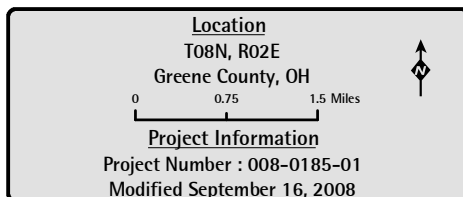
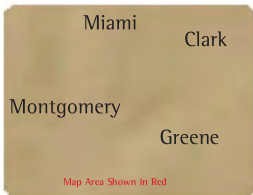




Figure 2. Environmental Features
Wright-Patterson Air Force Base

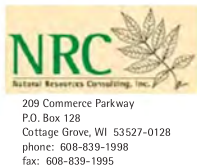
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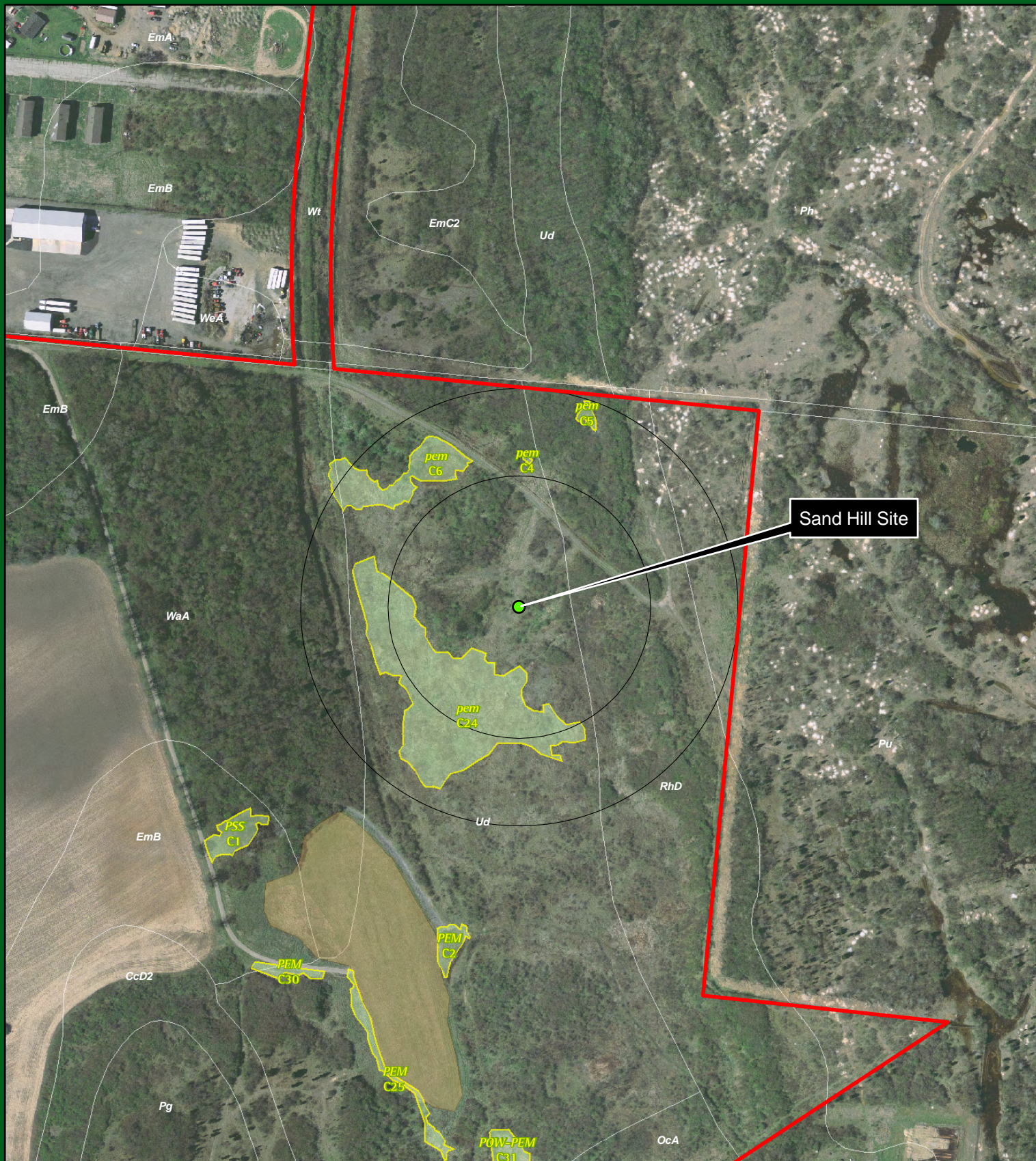


Location
T08N, R02E
Greene County, OH
0 150 300 Feet
Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend
Installation Boundary
Detonation Structure Location
Detonation Structure Buffer (300 and 500 ft)
Wetland Area
Environmental Restoration Site
Soil Map Unit Area
Waterway

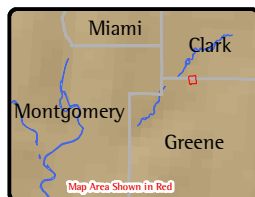




Sand Hill Site

Figure 2. Environmental Features
Wright-Patterson Air Force Base

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Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
Natural Resources Consulting, Inc.

209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1998
fax: 608-839-1995



Figure 2. Environmental Features
Wright-Patterson Air Force Base

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Location
T08N, R02E
Greene County, OH
0 150 300 Feet
Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend
Installation Boundary
Detonation Structure Location
Detonation Structure Buffer (300 and 500 ft)
Wetland Area
Environmental Restoration Site
Soil Map Unit Area
Waterway

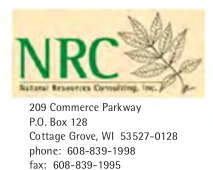




Figure 3a. Threatened and Endangered Species Occurances
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

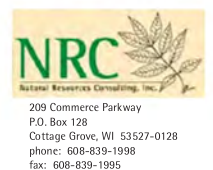
Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Rare Plants
- Bald Eagle
- Blazing Star Stem Borer

- Clubshell
- Indiana Bat
- Upland Sandpiper
- East. Massasauga Snake
- Waterway



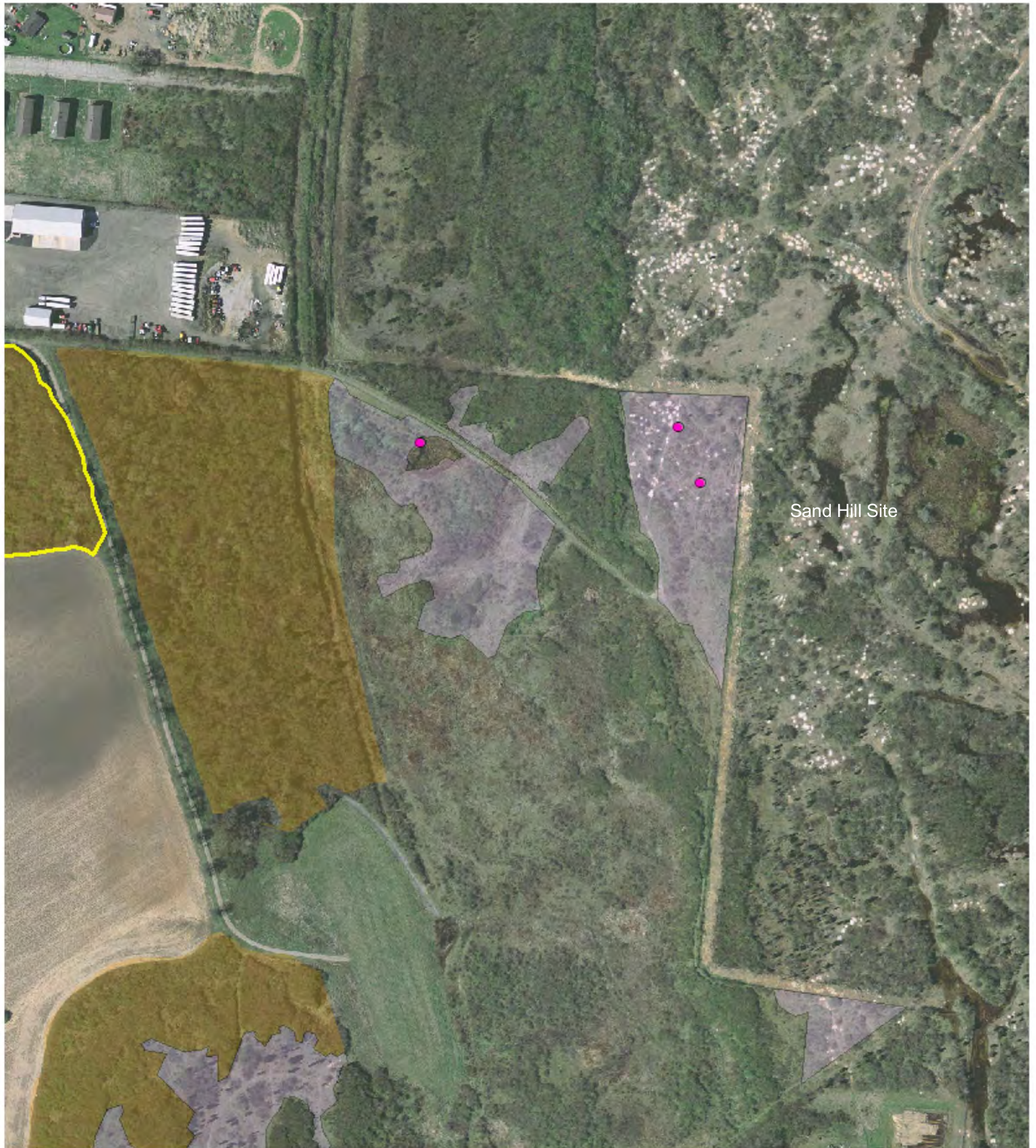


Figure 3a. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Rare Plants
- Bald Eagle
- Blazing Star Stem Borer

Clubshell
Indiana Bat
Upland Sandpiper
East. Massasauga Snake
Waterway

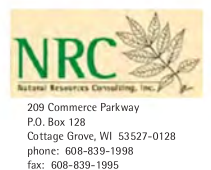




Figure 3a. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Rare Plants
- Bald Eagle
- Blazing Star Stem Borer

- Clubshell
- Indiana Bat
- Upland Sandpiper
- East. Massasauga Snake
- Waterway

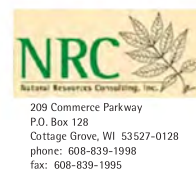




Figure 3b. Threatened and Endangered Species Habitat
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH
0 150 300 Feet



Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Bird Habitat Area
- Waterway

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

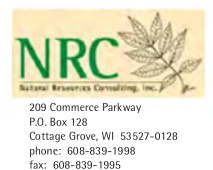




Figure 3b. Threatened and Endangered Species Habitat
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Bird Habitat Area
- Waterway

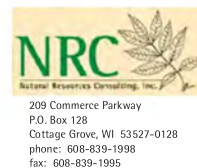




Figure 3b. Threatened and Endangered Species Habitat
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

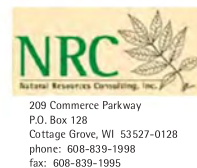
0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified September 19, 2008



Legend

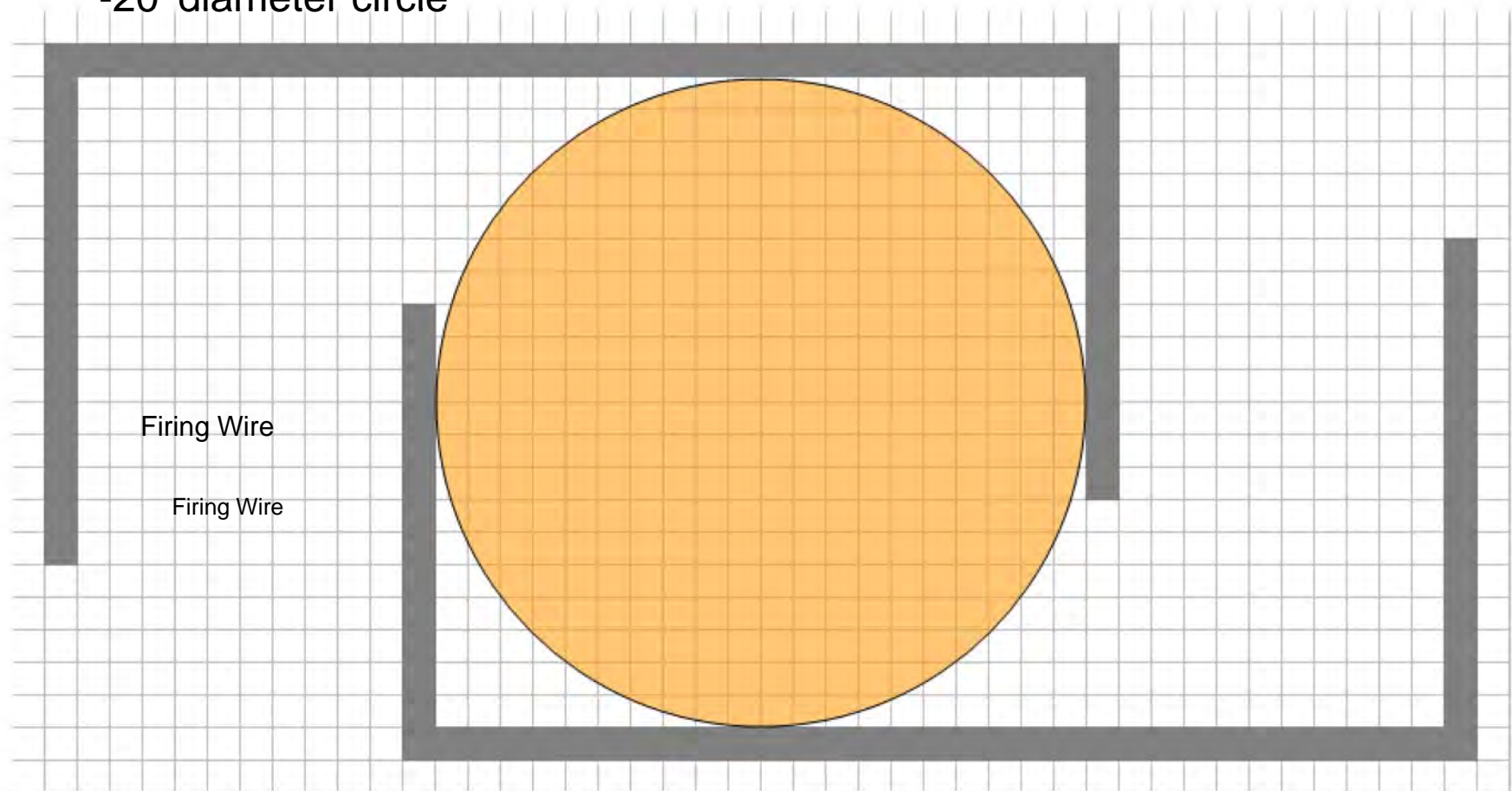
- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Bird Habitat Area
- Waterway



Suggested Option

-Area will need to be no less than 46'x 24'

-20' diameter circle



Example of Barrier



Holding Area



Tool Check Out Bunker



10/16/2008

WPAFB Consultation Request



CTI and Associates, Inc.

12482 Emerson Drive Brighton, MI 48116 248.486.5100 248.486.5050 Fax

October 16, 2008

Dr. Mary Knapp
U.S Department of Interior
Fish & Wildlife Service
6950 Americana Pkwy, Suite H
Reynoldsburg, OH 43068-4127

**Subject: Section 7 Endangered Species
Environmental Assessments
Wright Patterson AFB
Greene County, Ohio**

Dear Dr. Knapp:

On behalf of 88 ABW/CEVY at Wright Patterson AFB (WPAFB), CTI and Associates, Inc. (CTI) is providing the attached four (4) figures for inclusion with the letter requesting agency consultation submitted on September 23, 2008. The letter clearly identifies the scope of the proposed activities at the Former ABDR site located at WPAFB, however, the figures detailing the specific location and environment were inadvertently omitted from the original letter.

We appreciate your consideration of this additional support information. Please contact Raymond Baker, WPAFB, at (937) 257-0177 if there are questions regarding this addendum or the information provided in the original request letter.

Sincerely,
CTI and Associates, Inc.

A handwritten signature in black ink, appearing to read 'Terri Zick', is written over a horizontal line.

Terri Zick
Director of Compliance Services

Cc: Raymond Baker, WPAFB
Jeff Jones, Tetra Tech

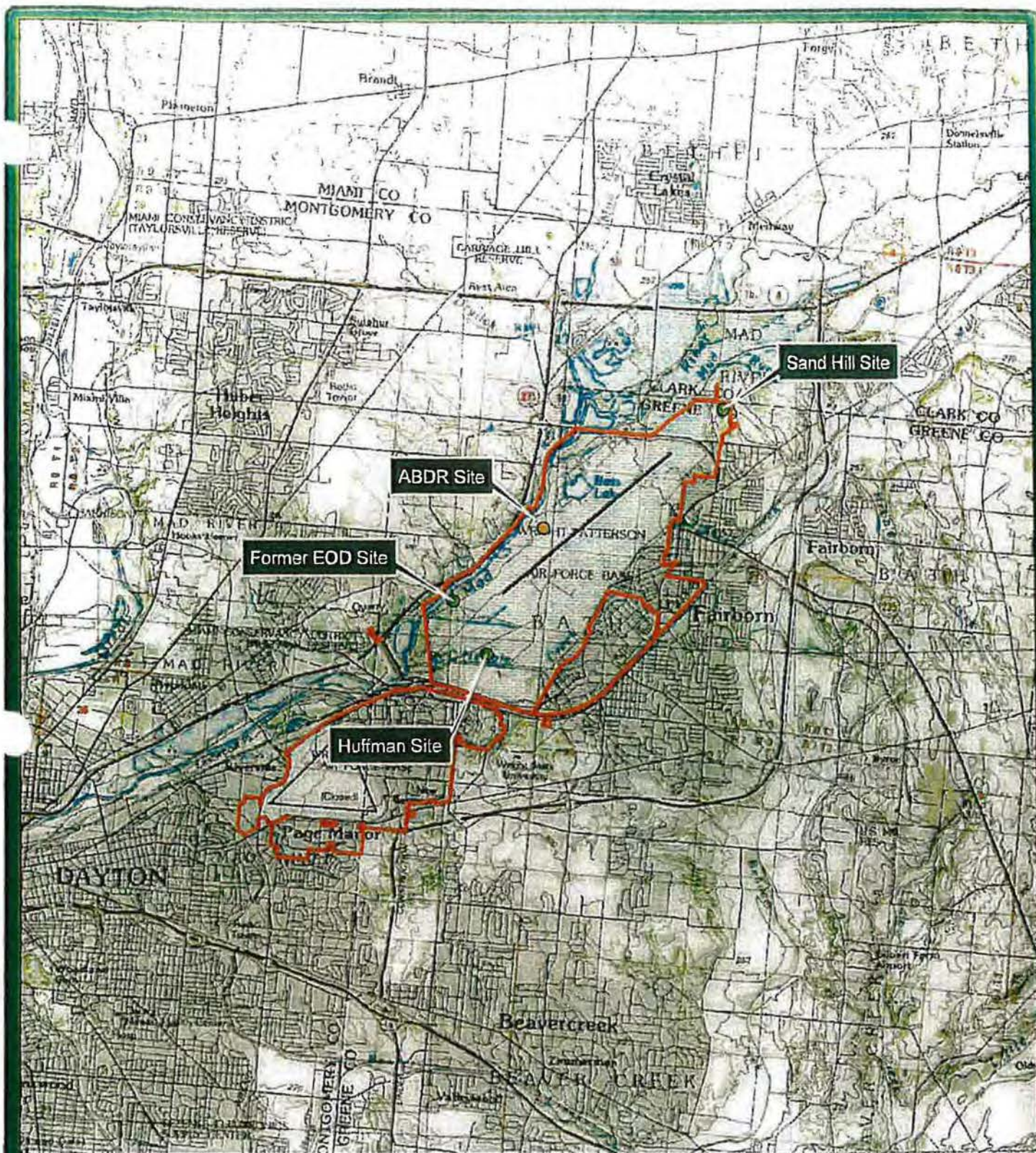


Figure 1. Project Location and Topography
Wright-Patterson Air Force Base

CONFIDENTIAL

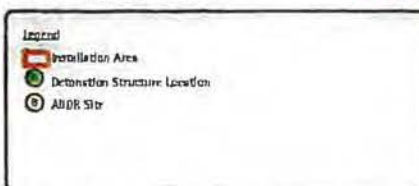
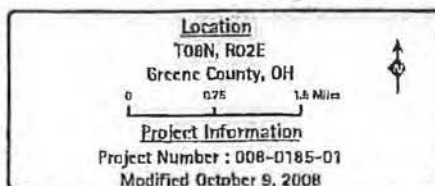




Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 200 Feet

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

- Installation Boundary
- ABDR Site
- Environmental Restoration Site
- 203 Map Unit Area
- Waterway

NRC
National Response Center
209 Commerce Parkway
P.O. Box 123
Cottage Grove, WI 53027-0123
phone: 800-877-1908
fax: 608-879-1995

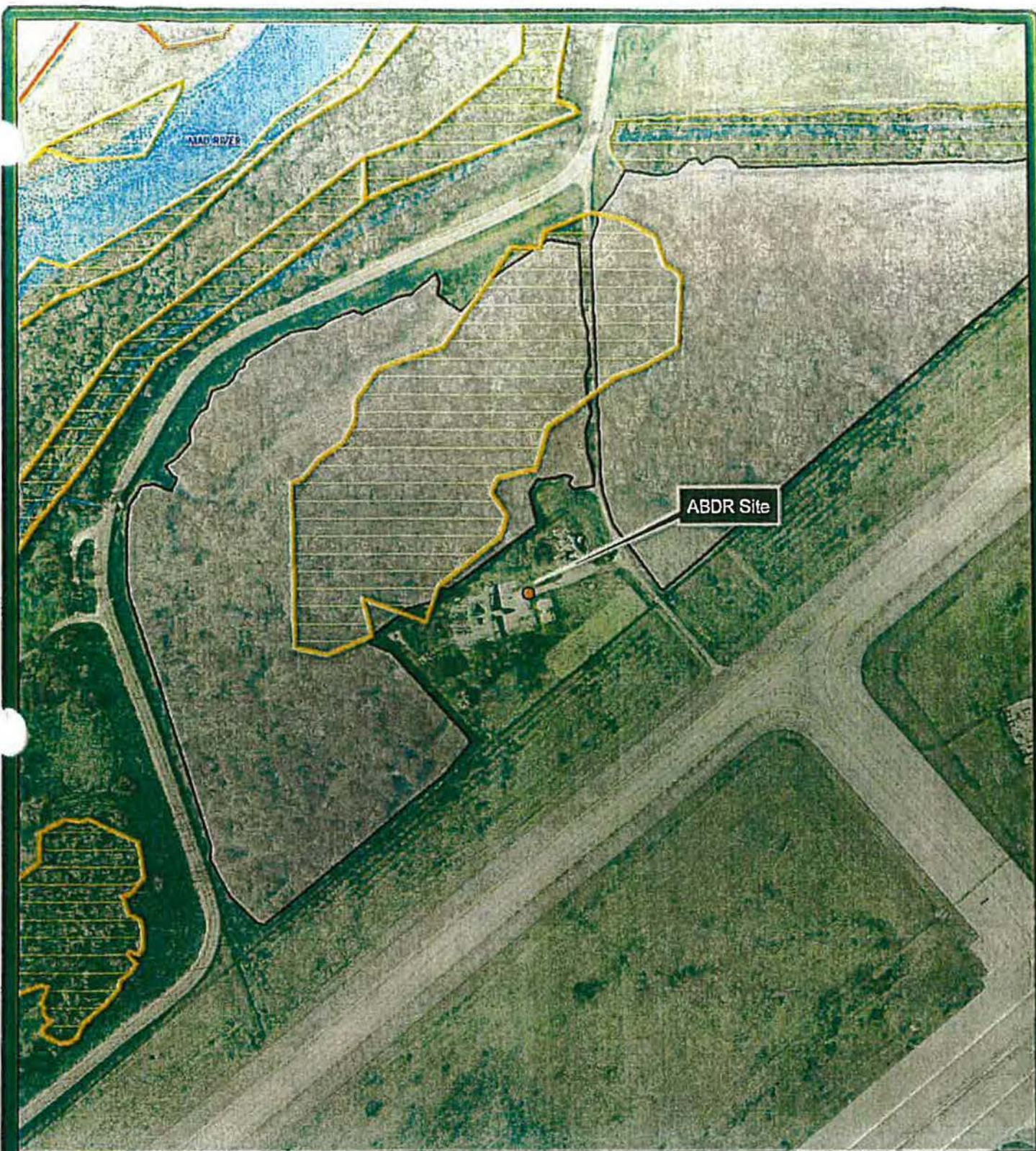


Figure 3. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

- Installation Boundary
- ABDR Site
- Bald Eagle
- Blazing Star Stem Borer
- Clubshell
- Indiana Bat
- Waterway

NRC
National Resource Center
201 Commerce Parkway
P.O. Box 170
Cottleville, MO 63017-0170
phone: 636-831-1970
fax: 636-831-1941

3/18/2009

USFWS Response



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
614-416-8993 / FAX 614-416-8994

March 18, 2009

R. Baker 24 Mar 09
Raymond Baker
88 ABW/CEVY
1450 Littrell Road, Building 22
Wright-Patterson AFB, OH, 45433

TAILS: 2009-FA-0033

Re: WPAFB EOD Range and ABDR Facility site, Greene County, OH

Dear Mr. Baker:

This is in response to your September 23, 2008 letter requesting information we may have regarding the occurrence or possible occurrence of federally listed threatened or endangered species within the vicinity of the proposed project located within the Wright-Patterson Air Force Base in Greene County, Ohio. We understand WPAFB has two proposed projects designed to support training efforts on the base. According to your letter, the first project involves construction and operation of the 88 ABV/CED Explosives Ordnance Disposal (EOD) proficiency training and emergency disposal range. The second proposed project involves a National Air and Space Intelligence Center (NASIC) and Air Force School of Aerospace Medicine Expeditionary Medical (USAFSAM EMEDS) Support field training activities for the former Aircraft Battle Damage and Repair (ABDR) Facility site. Additional information was received by email on the proposed projects on December 31, January 7, and March 4, and 16 2009.

There are no Federal wildlife refuges, wilderness areas, or Critical Habitat within the vicinity of this site.

According to your information, the EOD operations involve providing proficiency training to EOD personnel. We understand the maximum operations would be conducted on average of 3 days/week, up to 8 hours/day setting up/training for the detonation of explosive materials. We understand the maximum number of detonations that would occur is 1 detonation per hour in an 8 hour period and infrequent night time training may occur. These detonations would be controlled within the confines of a 6' H x 46' L x 24' W, precast concrete containment structure to be erected at the proposed site. In addition, two small barriers, approximately 6' L x 6' W x 4' H to contain tools and explosives and a gravel access road and parking area is proposed to be constructed. According to your information, a 200' radius around the detonation site will need to be cleared and maintained with mowing.

Proposed EOD sites:

We understand the proposed EOD training site involves 4 potential locations:

1. Former EOD range (Western edge near Mad River, Area C of WPAFB)
2. Huffman Site: Property N of Hebble Creek Road and W of the Huffman Prairie Flying Field (Area C of WPAFB)
3. Sand Hill (North of Area C, NE area corner of WPAFB,)
4. Skeel Avenue (E of former EOD site and NW Huffman site, Area C of WPAFB)

Proposed ABDR site:

We understand the former ABDR site is proposed for the NASIC and the USAFSAM EMEDS field training activities. According to your information, this proposed project would involve utilizing existing facility of the former ABDR and minor site improvements for emergency medical training for Aircraft Mishap Investigations. We understand there may be a trench dug to simulate crashed aircraft, and a 20' x 20' equipment storage building constructed at the site. According to your information, the frequency of training is approximately 30 times a year for 2 days a week. We understand only personnel and portable equipment, such as generators and medical equipment, would be used at the site. According to your information, there will be no land clearing necessary for this training activity and a gravel parking area already exists on-site.

The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a federally listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. During winter, Indiana bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but the following are considered important:

- (1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;
- (2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;
- (3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should the proposed site contain trees or associated habitats exhibiting any of the characteristics listed above, we recommend that the habitat and surrounding trees be saved wherever possible. We understand that survey work in 2000 and 2007 detected Indiana bats at WPAFB. The Service is concerned with the close proximity of the proposed locations and any potential impacts to this species and/or its habitat. It appears that some of the proposed EOD site locations may contain the habitats listed above and we would like to set up a site visit to determine if suitable habitat is present within the proposed locations.

The project lies within the range of the **eastern massasauga** (*Sistrurus catenatus catenatus*), a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate species. The snake is currently listed as endangered by the State of Ohio. Your proactive efforts to conserve this species now may help avoid the need to list the species under the Endangered Species Act in the future. Due to their reclusive nature, we encourage early project coordination to avoid potential impacts to massasaugas and their habitat. At a minimum, project evaluations should contain delineations of whether or not massasauga habitat occurs within project boundaries.

The massasauga is often found in or near wet areas, including wetlands, wet prairie, or nearby woodland or shrub edge habitat. This often includes dry goldenrod meadows with a mosaic of early successional woody species such as dogwood or multiflora rose. Wet habitat and nearby dry edges are utilized by the snakes, especially during the spring and fall. Dry upland areas up to 1.5 miles away are utilized during the summer, if available. For additional information on the eastern massasauga, including project management ideas, please visit the following website: <http://www.fws.gov/midwest/Endangered/lists/candidat.html> or contact this office directly.

The eastern massasauga is known to be present within the WPAFB. We understand a presence/absence survey is currently being conducted by Jeff Davis this spring 2009 and will continue into the fall. We understand that eastern massasaugas have been previously reported from the Prime BEEF Training Area (PBTA) and Twin Base Golf Course (TBGC) and that surveys conducted within the PBTA captured massasaugas in 1993. The Service is concerned with the close proximity of the proposed locations and any potential impacts to this species and/or its habitat. It appears some of the proposed EOD site locations may contain habitats listed above and we would like to set up a sit visit to determine if suitable habitat is present within the proposed locations.

The proposed project lies within the range of the **snuffbox** (*Epioblasma triquetra*), a Federal freshwater mussel species of concern and an Ohio endangered species and the **clubshell** (*Pleurobema clava*), a federally listed endangered freshwater mussel. These mussels are potentially present in the Little Miami River. Due to the location of the proposed project, no impacts are expected for these mussel species.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (ESA), as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed ESA section 7 consultation document.

If you have questions, or if you would like to set up a site visit, please contact Melanie Cota at extension 15 in this office or by email at Melanie_Cota@fws.gov or visit our website at <http://www.fws.gov/midwest/Reynoldsburg/>.

Sincerely,



Mary Knapp, Ph.D.
Field Supervisor

cc: ODNr, DOW, SCEA Unit, Columbus, OH

12/03/2009

USFWS Response (e-mail)

Terri Zick

From: Beason, Karen N Civ USAF AFMC 88 ABW/CEVO [Karen.Beason@wpafb.af.mil]
Sent: Thursday, December 10, 2009 2:23 PM
To: jj45322@aol.com
Cc: Terri Zick
Subject: FW: NASIC EMEDS Section 7 Consultation
Attachments: USFWS response 18 Mar 09.pdf

Jeff,

As discussed in the conference call earlier, the email message below from the USFWS completes consultation for the NASIC EMEDS EA pending headquarters acceptance. Please let me know if there are any questions or if anything else is needed.

Have a Blessed Christmas and a Prosperous New Years!
Karen

-----Original Message-----

From: Melanie_Cota@fws.gov [mailto:Melanie_Cota@fws.gov]
Sent: Thursday, December 03, 2009 2:07 PM
To: Beason, Karen N Civ USAF AFMC 88 ABW/CEVO
Cc: Ferguson, Janet E Civ USAF AFMC 88 ABW/CEVO
Subject: Re: NASIC EMEDS Section 7 Consultation

Hi Karen,

This email serves as the Section 7 Consultation for the former ABDR site at WPAFB in Green County, Ohio. The Service concluded consultation for the Explosive Ordnance Disposal (EOD) Range on August 13, 2009 (2009-TA-0606) and an amendment to that consultation on October 2, 2009 (2010-TA-0002).

We understand the former ABDR site is proposed for the NASIC and the USAFSAM EMEDS field training activities. According to your information there are two distinct activities proposed at the ABDR location. One involves emergency response medical training for Aircraft Mishap Investigations. Currently there are two aircraft fuselages already at the ABDR location. There may also be a trench dug to simulate a crashed aircraft, and a 20'x20' equipment storage building constructed at the site. We understand there will be no hazardous materials used or land clearing necessary for this training activity and there already exists a gravel area for vehicle parking.

According to your information, the second activity at the ABDR involves activities performed by the National Air and Space Intelligence Center (NASIC). We understand that these activities involve the use of various generators to power test equipment and facilities and the only hazardous material will be the fuels to power the generators. There may be as many as 8 generators in operation at one time. The length of the experiments is 5 days, and there are only 2 experiments planned per year. We understand that there will be no land clearing for this activity.

The proposed project lies within the range of the Indiana bat (*Myotis sodalis*), eastern massasauga (*Sistrurus catenatus catenatus*), snuffbox mussel (*Epioblasma triquetra*) and clubshell mussel (*Pleurobema clava*). This project is in within close proximity to known occurrences for the Indiana

bat and eastern massasauga however, we understand that no land clearing activities are currently proposed for this project. Due to the project plans to not conduct any land clearing activities within the above species habitats, no impacts are expected for any of these species.

This concludes consultation on this action as required by section 7(a)(2) of the Endangered Species Act. Should, during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (ESA), as amended, and are consistent with the intent of the National Environmental Policy Act of 1969 and the U. S. Fish and Wildlife Service's Mitigation Policy.

Melanie Cota
Fish and Wildlife Biologist
U. S. Fish and Wildlife Service
4625 Morse Road, Suite 104
Columbus, OH 43230
614-416-8993 Ext. 15
614-416-8994 (Fax)
Melanie_Cota@fws.gov
<http://fws.gov/midwest/ohio/>

Working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.
Inactive hide details for "Beason, Karen N Civ USAF AFMC 88 ABW/CEVO"
<Karen.Beason@wpafb.af.mil>"Beason, Karen N Civ USAF AFMC 88 ABW/CEVO"
<Karen.Beason@wpafb.af.mil>

"Beason, Karen N Civ USAF AFMC 88 ABW/CEVO"
<Karen.Beason@wpafb.af.mil>

12/03/2009 10:25 AM

To

<Melanie_Cota@fws.gov>

cc

"Ferguson, Janet E Civ USAF AFMC 88 ABW/CEVO" <Janet.Ferguson@wpafb.af.mil>

Subject

NASIC EMEDS Section 7 Consultation

Melanie,

Happy Holidays. Wright-Patterson Air Force Base would like to thank the USFWS for the support provided in the management of our Natural Resources throughout the year.

The request for Section 7 consultation was made for two proposed actions, the EOD Range and the National Air and Space Intelligence Center (NASIC) and Air Force School of Aerospace Medicine Expeditionary Medical (USAFSAM EMEDS) support field training activities for the former Aircraft Battle Damage and Repair (ABDR) Facility site.

The attached letter, dated 18 Mar 09 in the last correspondence that addresses the NASIC/EMEDS ABDR Facility Site. All subsequent correspondence as well as the 7 Apr 09 site visit, were related to the EOD Range only. Confirmation of consultation having been completed for the EOD Range was made in the USFWS letter dated 2 Oct 09. None of the correspondence indicates that the Section 7 consultation for the NASIC/EMEDS ABDR Facility site is complete. Please provide written confirmation (email, letter, etc.) confirming the Section 7 consultation for the ABDR Facility site is complete.

Thanks,
Karen

(See attached file: USFWS response 18 Mar 09.pdf)

Appendix A
Consultation Summary

Ohio Department of Natural Resources (ODNR)

Date	Nature of Correspondence	Consultation Issues	Outcome
9/22/08 & 9/25/08	WPAFB Consultation Request	WPAFB request for consultation	N/A
10/16/2008	WPAFB Consultation Request	Additional information provided to assist in initial request	N/A
10/1/2008	ODNR Response	Summarized state threatened/endangered species occurrences in the area and confirmed that no protected areas exist within the vicinity of the project	No impact expected
10/23/2008	ODNR Response	Summarized state threatened/endangered species occurrences in the area and confirmed that no protected areas exist within the vicinity of the project	Consultation Concluded; No impact expected

9/22/08 & 9/25/08

WPAFB Consultation Request



September 22, 2008

Debbie Woischke
Ohio Department of Natural Resources
Division of Natural Areas and Preserves
Natural Heritage Data Services
2045 Morse Road, Building F-1
Columbus, Ohio 432296693

Subject: Rare Species Data Request and Informal Consultation
Environmental Assessments
Wright Patterson AFB
Greene County, Ohio

Dear Ms. Woischke:

Wright-Patterson AFB is preparing two Environmental Assessments for two projects designed to support training efforts on the base.

The first EA will evaluate the proposed construction and operation of the 88 ABW/CED Explosives Ordnance Disposal (EOD) proficiency training and emergency disposal range. The proposed locations for the EOD range are

- I. Former EOD range (Area C of WPAFB)
- II. Property north of Hebble Creek Road and west of the Huffman Prairie Flying Field (Area C of WPAFB); and
- III. Sand Hill (north of Area C of WPAFB).

The second EA will evaluate the proposed National Air and Space Intelligence Center (NASIC) and the U.S. Air Force School of Aerospace Medicine Expeditionary Medical Support (USAFSAM EMEDS) field training activities at the former Aircraft Battle Damage and Repair (ABDR) Facility site.

As part of these assessments, we would like to request the locations of known populations of rare, threatened and endangered species within a one mile radius of the project sites. For the Indiana bat, we would like to request information within a five mile radius. A Natural Heritage Data Request form is enclosed. We would also like to request informal consultation regarding the possible impacts of the projects on species listed as threatened or endangered in accordance with Section 7 of the Endangered Species Act.

The first EA (1), EOD operation, involves providing proficiency training to EOD personnel. At worst case this involves 2 days/week, 4 hours/day of training. The 4 hours involve setting up/training for the detonation of explosive materials (maximum explosive material detonated is five pounds C4 at one time). The actual detonation/explosion takes less than one second. The "clear" zone around the detonation site is a 500 foot radius. The detonations will be performed inside a walled containment barrier, most likely concrete. On an emergency basis only, this site will also be used to detonate unexploded ordnance that come from the base or also from the public; this is a random occurrence with a frequency of maybe once/month. This project would involve constructing a precast concrete barrier six feet tall, approximately 46 feet long x 24 feet wide, with two open entrances. Two smaller barriers (approximately 6 feet long x 6 feet wide x 4 feet high) to contain tools and explosive materials, and a gravel access road and parking area would also be constructed.

The second EA (2) involves utilizing the existing facility of former ABDR, and minor site improvements for mobile medical facility training. Only personnel and portable equipment, such as generators and medical equipment, would be used at this site.



DATA REQUEST FORM

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS AND PRESERVES
OHIO NATURAL HERITAGE PROGRAM
2045 MORSE RD., BLDG. F-1
COLUMBUS, OHIO 43229-6693
PHONE: 614-265-6453; FAX: 614-267-3096

INSTRUCTIONS:

Please complete both sides of this form, sign and return it to the address or fax number given above along with: (1) a brief letter describing your project, and (2) a map detailing the boundaries of your project site. A copy of the pertinent portion of a USGS 7.5 minute topographic map is preferred but other maps are acceptable. Our turnaround time is two weeks, although we can often respond more quickly. If you fax in your request you do not need to mail the original unless otherwise requested.

FEES:

Fees are determined by the amount of time it takes to complete your project. The charge is \$50.00 per half hour with a one hour minimum. A cost estimate can be provided upon request. An invoice will be included with our response.

WHAT WE PROVIDE: The Natural Heritage Database is the most comprehensive source of information on the location of Ohio's rare species and significant natural features. Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Records for the following will be provided from the Natural Heritage Database: plants and animals (state and federal listed species), high quality examples of natural plant communities, geologic features, breeding animal concentrations, and unprotected natural areas. In addition, we report locations for managed areas including federal, state, county, local and non-profit areas, as well as state and national scenic rivers. Natural Heritage Data can be provided in many formats, including GIS shapefiles, spreadsheets, printed reports or maps. A minimum one mile radius around the project site will automatically be searched. Because Natural Heritage data is sensitive information, it is our policy to provide only the data needed to complete your project.

Date: _____ September 22, 2008 _____

Company name: _____ Tetra Tech, Inc. _____

Your name: _____ Jeff Jones, Project Manager _____

Address: _____ Dayton Project Office, 13 & G Street, Area B, AMC PO Box 33509 _____

City/State/Zip: _____ WPAFB, OH 45433 _____

Phone: _____ 937-254-7012 _____ Fax: _____ 937-254-6080 _____

E-mail address: _____ jj45322@aol.com _____

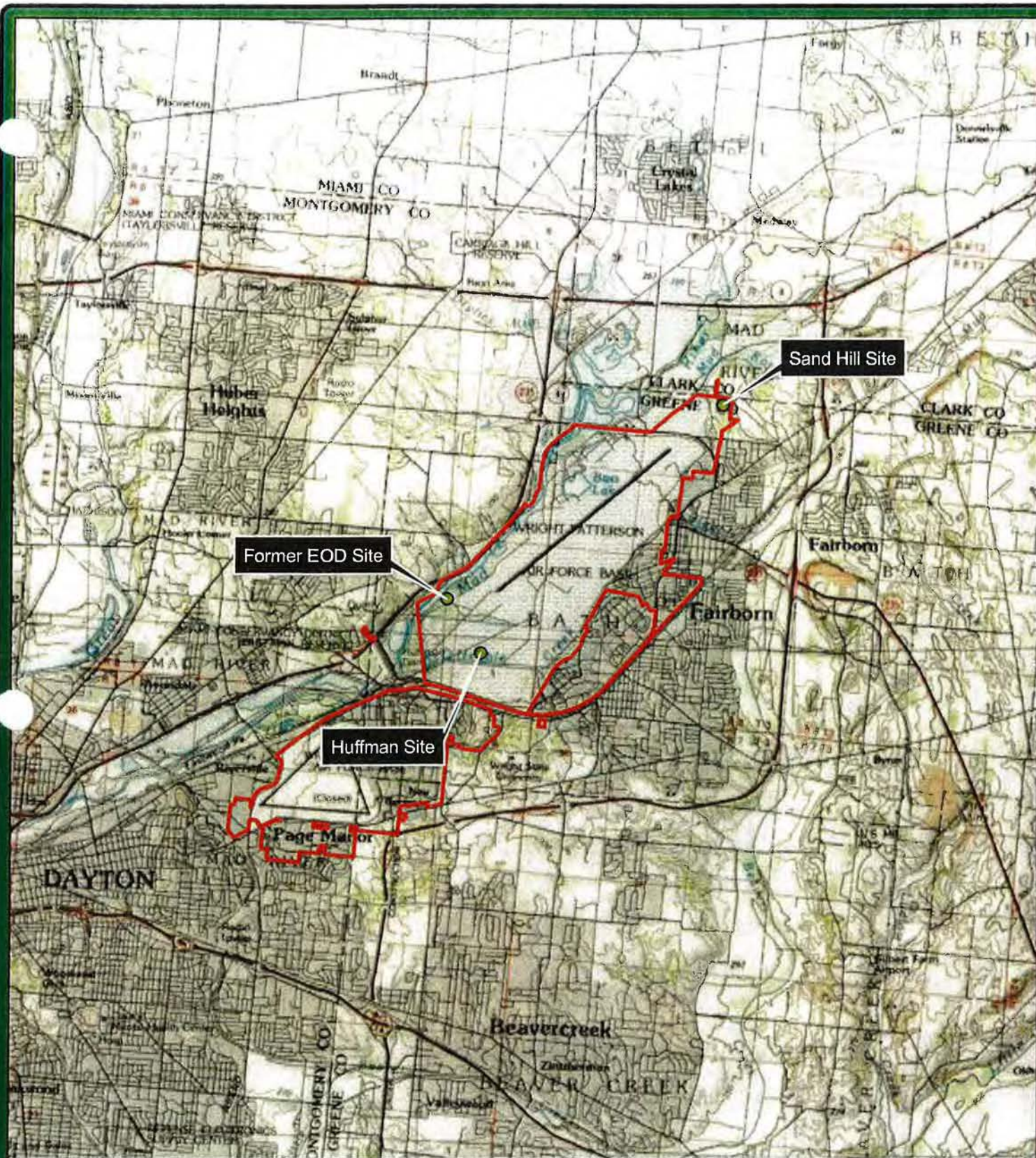


Figure 1. Project Location and Topography
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 0.75 1.5 Miles

Project Information
Project Number : 008-0185-01
Modified September 16, 2008

Legend

Installation Area

Detonation Structure Location

NRC
Nuclear Regulatory Commission
209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1988
fax: 608-839-1995



Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
National Resources Consulting, Inc.

209 Commerce Parkway
P.O. Box 120
Cottage Grove, WI 53527-0120
phone: 608-439-1988
fax: 608-439-1986

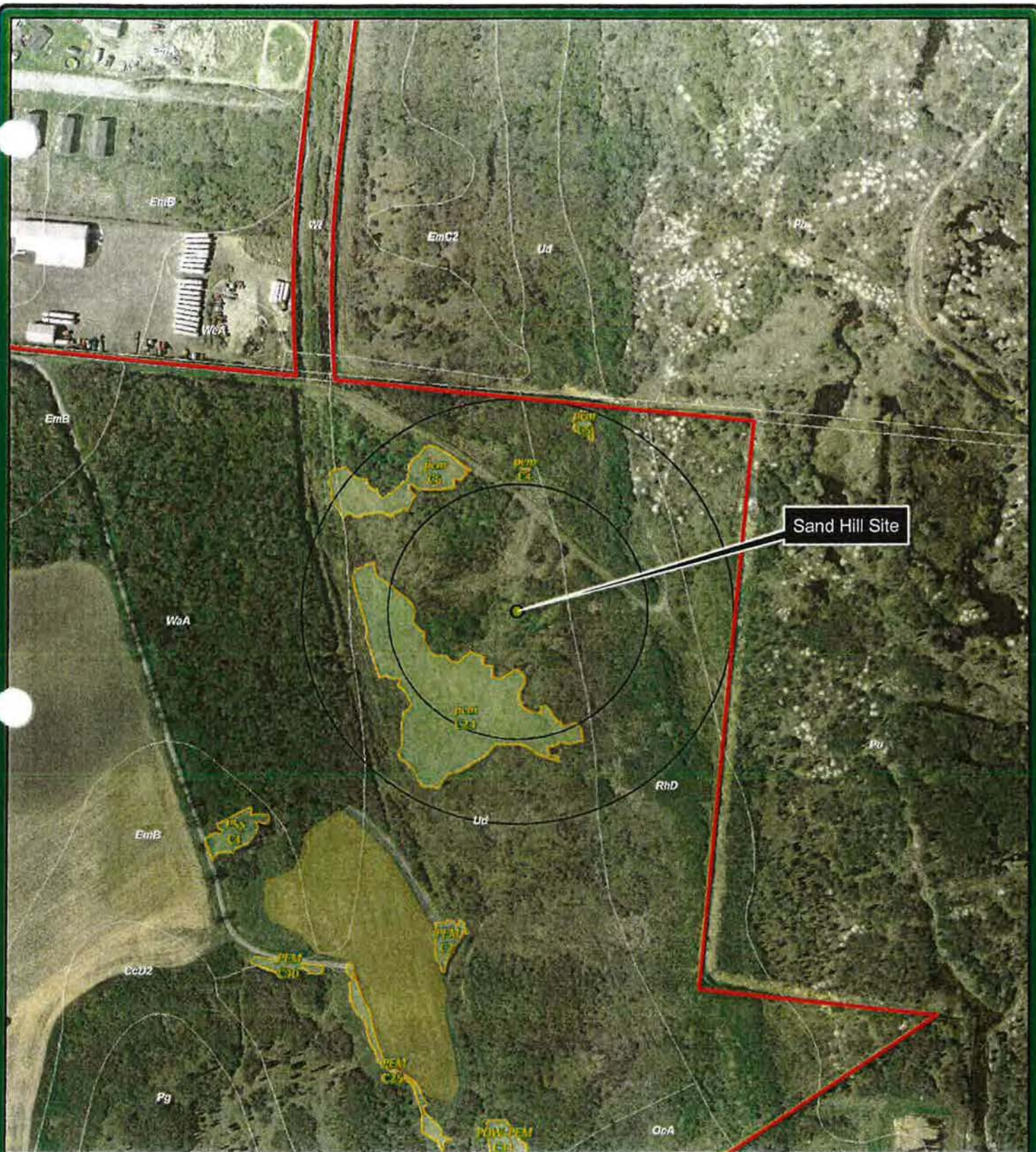


Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
National Remediation Corporation, Inc.

208 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-439-1898
fax: 608-839-1895

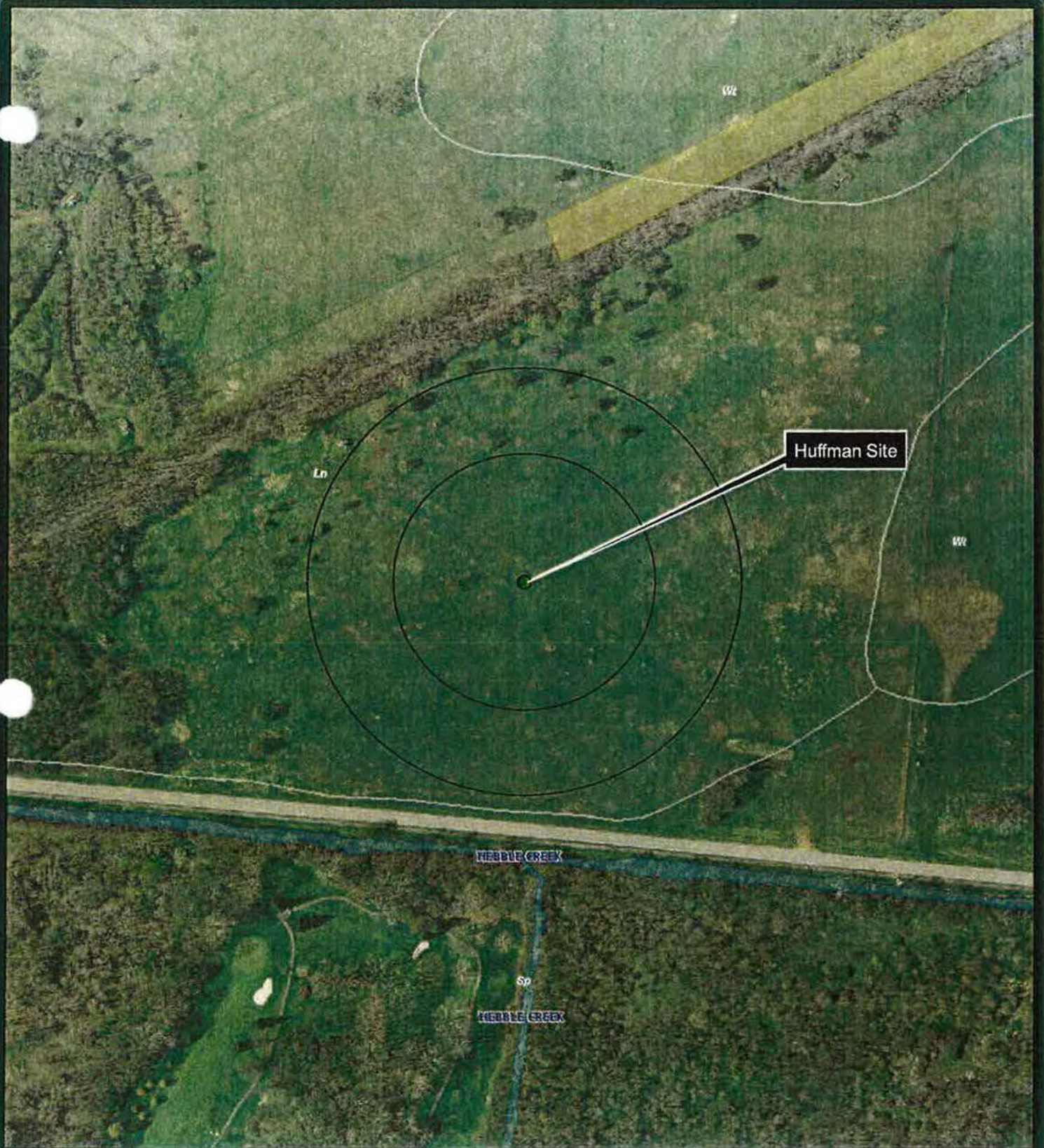


Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
National Resource Consulting, Inc.

200 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1995
fax: 608-839-1995

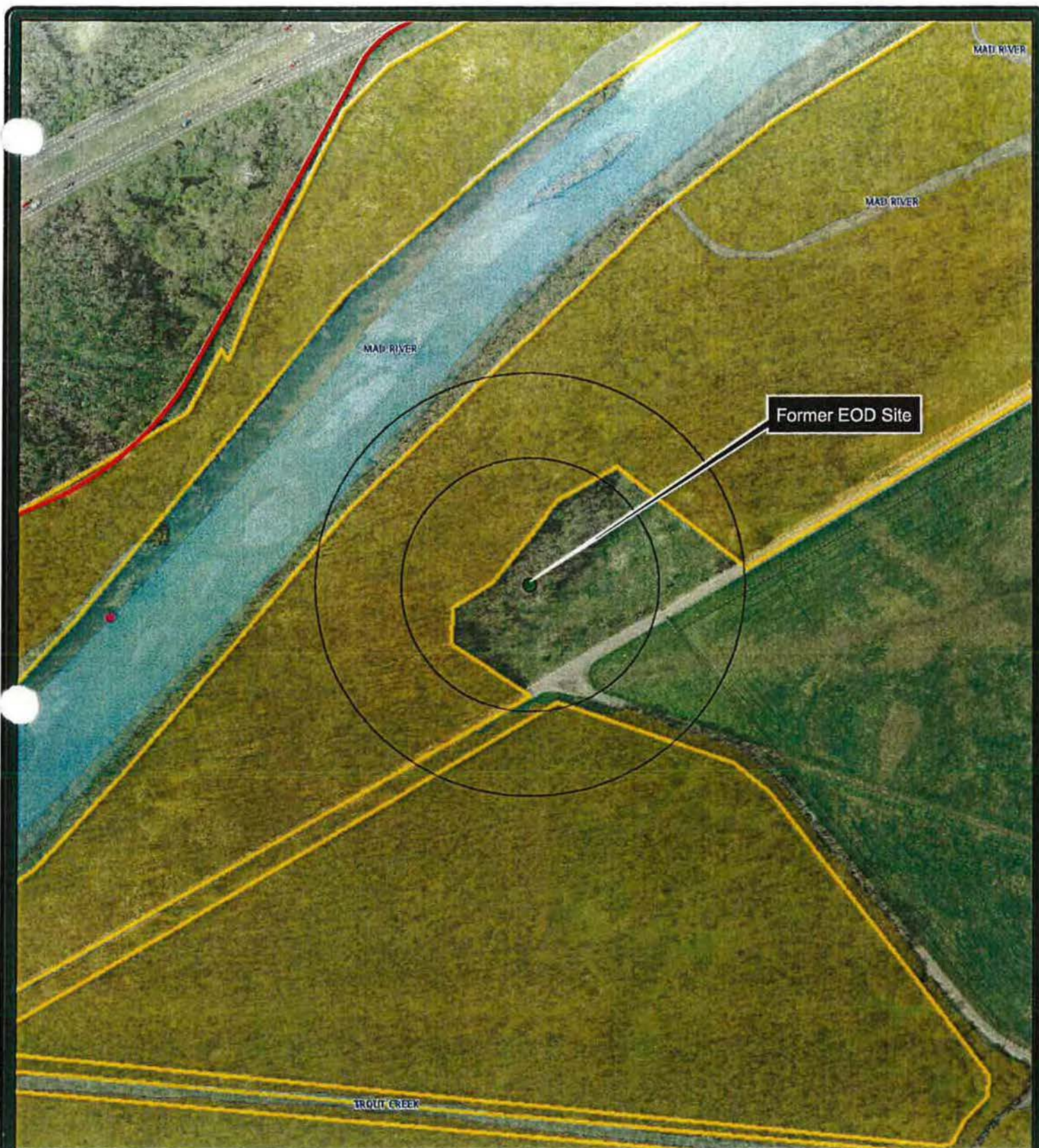


Figure 3a. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 600 ft)
- Rare Plants
- Bald Eagle
- Blazing Star Stem Borer
- Clubshell
- Indiana Belt
- Upland Sandpiper
- East. Massasauga Snake
- Waterway

NRC
National Resource Center
200 Commerce Parkway
P.O. Box 128
Cortado, Ohio, OH 43027-0128
phone: 604-439-1998
fax: 604-439-1995

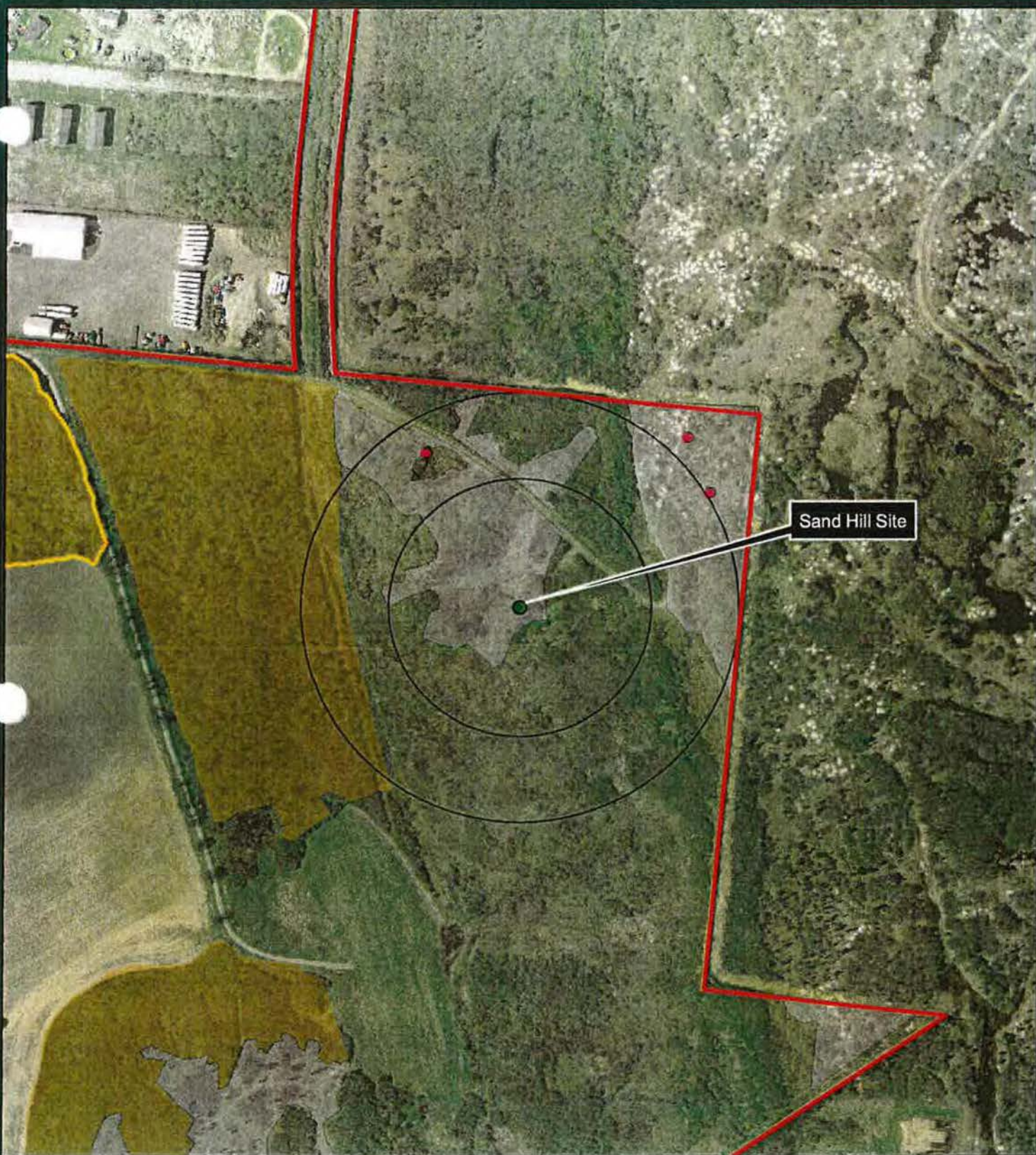


Figure 3a. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 160 300 Feet

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

Installation Boundary	Cypress
Detonation Structure Location	Indiana Bat
Detonation Structure Buffer (300 and 600 Ft)	Upland Sandpiper
Rare Plants	East. Massasauga Snake
Bald Eagle	Waterway
Blazing Star Stem Borer	

NRC
Norton Resources Consulting, Inc.

200 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53027-0128
phone: 608-439-1988
fax: 608-839-1990



Figure 3a. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

Installation Boundary	Chubbell
Detonation Structure Location	Indiana Bat
Detonation Structure Buffer (300 and 600 ft)	Upland Sandpiper
Pine Plants	East. Massasauga Snake
Bald Eagle	Waterway
Blazing Star Steam Borer	

NRC

208 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53017-0128
phone: 608-839-1098
fax: 608-839-1595

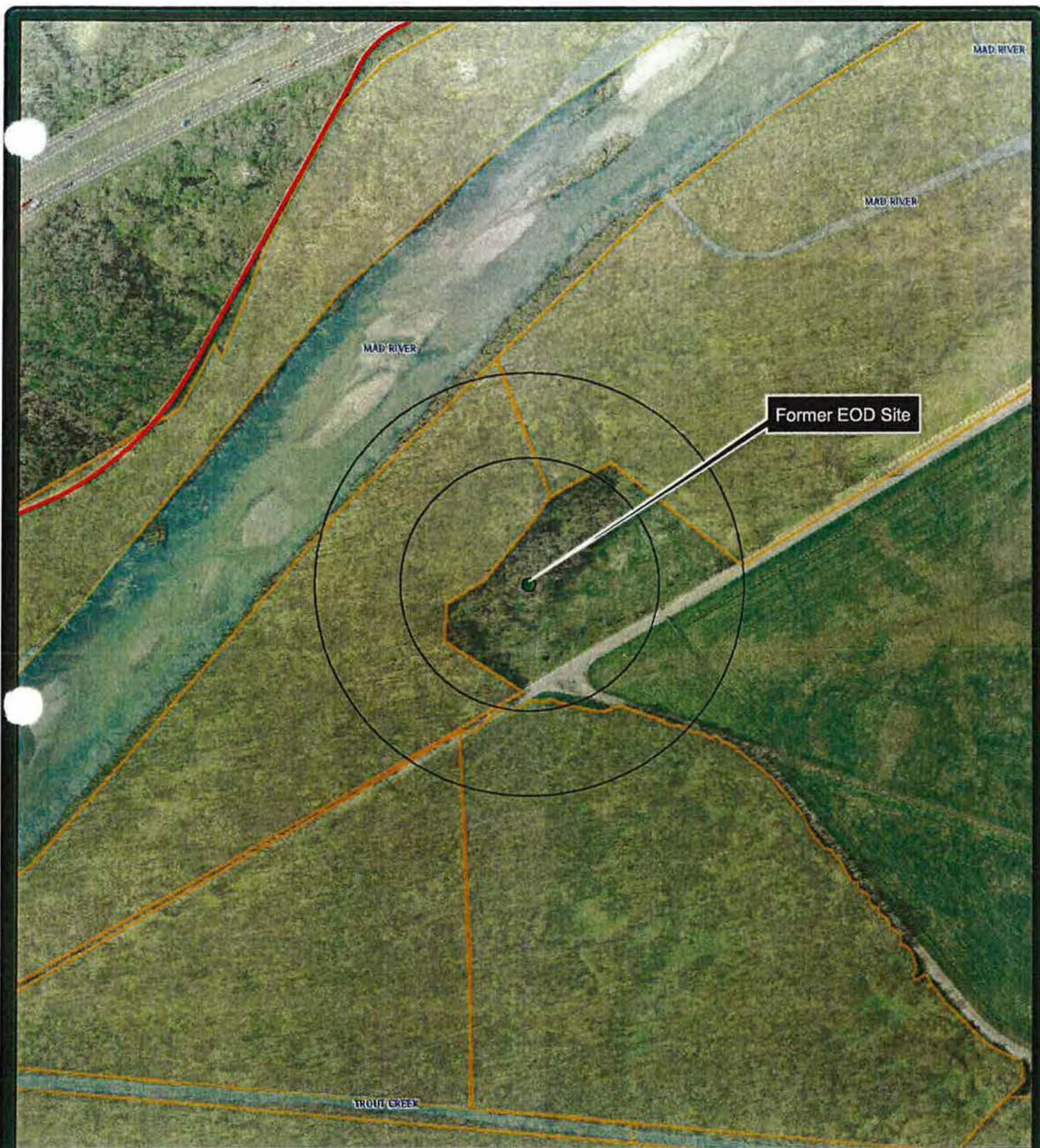


Figure 3b. Threatened and Endangered Species Habitat
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 Ft)
- Bird Habitat Area
- Waterway

NRC
Natural Resources Consulting, Inc.

209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1838
fax: 608-839-1995

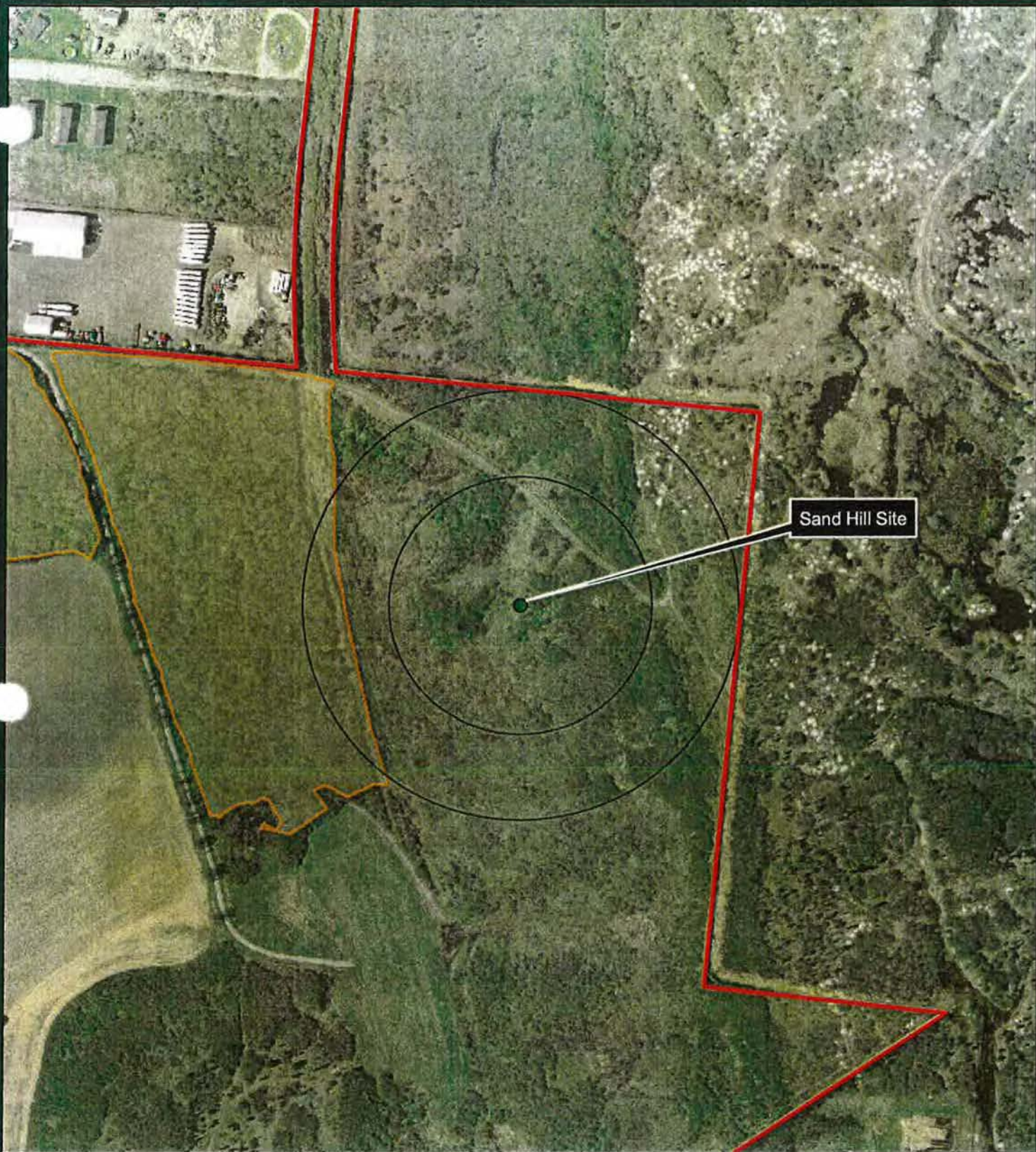


Figure 3b. Threatened and Endangered Species Habitat
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Bird Habitat Area
- Waterway

NRC
Natural Resources Consulting, Inc.

309 Commerce Parkway
P.O. Box 126
Cottage Grove, WI 53027-0126
phone: 608-628-1988
fax: 608-628-1995



Figure 3b. Threatened and Endangered Species Habitat
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Bird Habitat Area
- Waterway

NRC
NRC
208 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53127-0128
phone: 608-839-1998
fax: 608-839-1995



DATA REQUEST FORM

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS AND PRESERVES
OHIO NATURAL HERITAGE PROGRAM
2045 MORSE RD., BLDG. F-1
COLUMBUS, OHIO 43229-6693
PHONE: 614-265-6453; FAX: 614-267-3096

INSTRUCTIONS:

Please complete both sides of this form, sign and return it to the address or fax number given above along with: **(1)** a brief letter describing your project, and **(2)** a map detailing the boundaries of your project site. A copy of the pertinent portion of a USGS 7.5 minute topographic map is preferred but other maps are acceptable. Our turnaround time is two weeks, although we can often respond more quickly. If you fax in your request you do not need to mail the original unless otherwise requested.

FEES:

Fees are determined by the amount of time it takes to complete your project. The charge is \$50.00 per half hour with a one hour minimum. A cost estimate can be provided upon request. An invoice will be included with our response.

WHAT WE PROVIDE: The Natural Heritage Database is the most comprehensive source of information on the location of Ohio's rare species and significant natural features. Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Records for the following will be provided from the Natural Heritage Database: plants and animals (state and federal listed species), high quality examples of natural plant communities, geologic features, breeding animal concentrations, and unprotected natural areas. In addition, we report locations for managed areas including federal, state, county, local and non-profit areas, as well as state and national scenic rivers. Natural Heritage Data can be provided in many formats, including GIS shapefiles, spreadsheets, printed reports or maps. A minimum one mile radius around the project site will automatically be searched. Because Natural Heritage data is sensitive information, it is our policy to provide only the data needed to complete your project.

Date: August 11, 2008

Company name: Tetra Tech, Inc.

Your name: Jeff Jones, Project Manager

Address: Dayton Project Office, 13 & G Street, Area B, AMC PO Box 33509

City/State/Zip: WPAFB, OH 45433

Phone: 937-254-7012 Fax: 937-254-6080

E-mail address: jj45322@aol.com

INVOICE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS & PRESERVES
NATURAL HERITAGE DATA SERVICES
2045 MORSE ROAD, BUILDING F-1
COLUMBUS, OH 43229
(614) 265-6453

User Identification

Name: Tetra Tech, Inc.
Contact: Jeff Jones
Address: Dayton Project Office
13 & G St., Area B, AMC PO Box 33509
WPAFB, OH 45433

Payment due by: 11-1-2008

Billing Date: 10-1-2008	Invoice Number: № 11617	
Project (s): 3 Field Training sites at WPAFB - Sand Hill Site, Former EOD Site & Huffman Site	Heritage Services: manual search, data provided 2 hrs. at \$50.00/half hr.	Cost: 200.00
Please remit check or money order payable to "Division of Natural Areas & Preserves" within 30 days. If the invoice is not paid within 30 days, the amount will be certified with the Ohio Attorney General. Please return one copy of invoice with payment.		TOTAL 200.00

10/16/2008

WPAFB Consultation Request



CTI and Associates, Inc.

12482 Emerson Drive Brighton, MI 48116 248.486.5100 248.486.5050 Fax

October 16, 2008

Debbie Woischke
Ohio Department of Natural Resources
Division of Natural Areas and Preserves
Natural Heritage Data Services
2045 Morse Road, Building F-1
Columbus, Ohio 432296693

Subject: Rare Species Data Request and Informal Consultation
Environmental Assessments
Wright Patterson AFB
Greene County, Ohio

Dear Ms. Woischke,

On behalf of Tetra Tech, Inc. (Tetra Tech), CTI and Associates, Inc. (CTI) is providing the attached four (4) figures for inclusion with the letter requesting agency consultation submitted on September 22, 2008. The letter clearly identifies the scope of the proposed activities at the Former ABDR site located at WPAFB, however, the figures detailing the specific location and environment were inadvertently omitted from the original letter.

We appreciate your consideration of this additional support information. Please advise us should the additional documentation alter your response dated October 1, 2008. Please contact us if there are questions regarding this addendum or the information provided in the original request letter.

Sincerely,
CTI and Associates, Inc.

A handwritten signature in black ink, appearing to read 'Terri Zick', is written over a light blue circular stamp.

Terri Zick
Director of Compliance Services

Cc: Raymond Baker, WPAFB
Jeff Jones, Tetra Tech

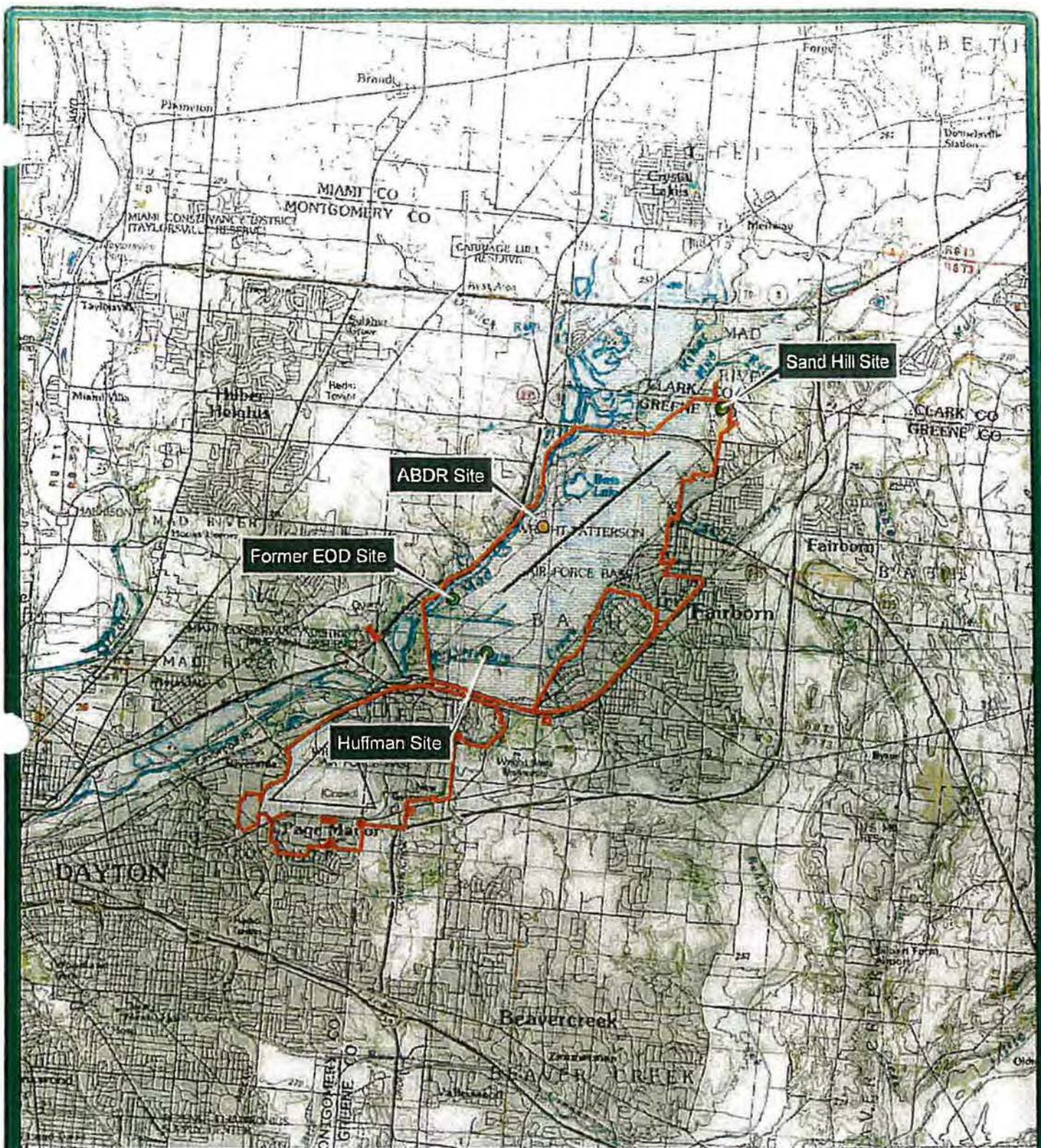


Figure 1. Project Location and Topography
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified October 9, 2000

Legend

- Installation Area
- Destination Structure Location
- ABDR Site

NRC
Nuclear Regulatory Commission
200 Comstock Parkway
P.O. Box 178
Collegeville, PA 19307-0178
Phone: 610-426-1974
Fax: 610-426-1975



Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

- Partial Section Boundary
- ABDR Site
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
National Remediation Consulting, Inc.

209 Commerce Parkway
P.O. Box 120
College Grove, KY 42627-0120
phone: 606-427-1979
fax: 606-427-1955

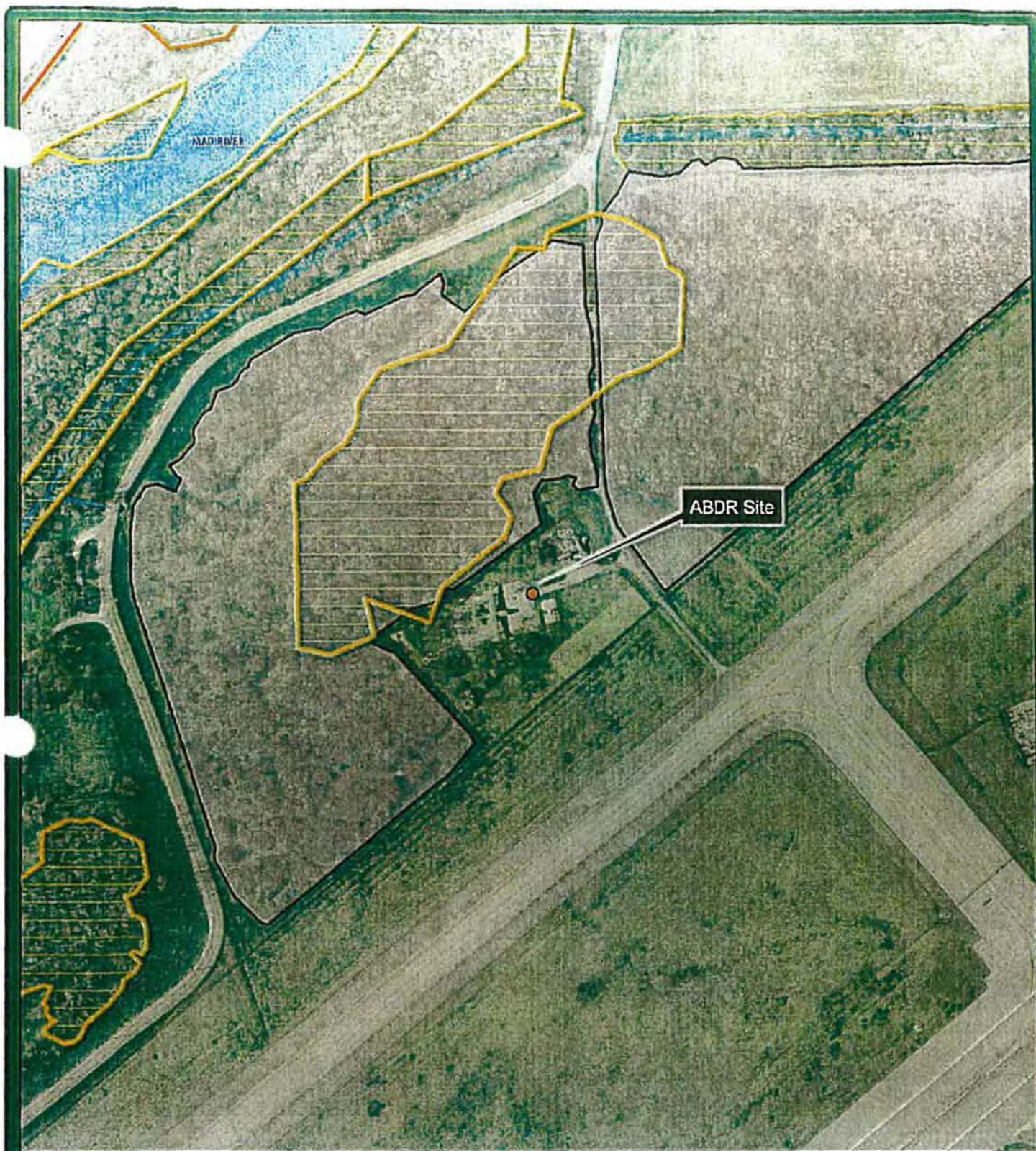


Figure 3. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

- Installation Boundary
- ABDR Site
- Bald Eagle
- Blazing Star Stem Borer
- Clubshell
- Indiana Bat
- Waterway

NRC
National Resources Consulting, Inc.
209 Commerce Parkway
P.O. Box 120
College Grove, WI 53227-0120
Phone: 608-839-1979
Fax: 608-839-1995

10/1/2008

ODNR Response



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Natural Areas and Preserves

Steven D. Maurer, Chief

2045 Morse Rd., Bldg. F-1

Columbus, OH 43229-6693

Phone: (614) 265-6453; Fax: (614) 267-3096

October 1, 2008

Jeff Jones
Tetra Tech, Inc.
Dayton Project Office
13 & G St., Area B, AMC PO Box 33509
WPAFB, OH 45433

Dear Mr. Jones:

I have reviewed our Natural Heritage maps and files for the three proposed Field Training project sites, including a one mile radius at each site, at Wright-Patterson Air Force Base in Greene County, and on the Fairborn Quad. The search also includes a five mile radius for Indiana Bat (*Myotis sodalis*) records. The numbers/letters on the list below correspond to the areas marked on the accompanying maps. Common name, scientific name and status are given for each species. Status codes are defined as: E=endangered, P=potentially threatened, SC=species of concern and FE=federal endangered.

Fairborn Quad

Sand Hill Site

1. *Spiranthes magnicamporum* - Great Plains Ladies'-tresses, P
2. *Spiranthes magnicamporum* - Great Plains Ladies'-tresses, P

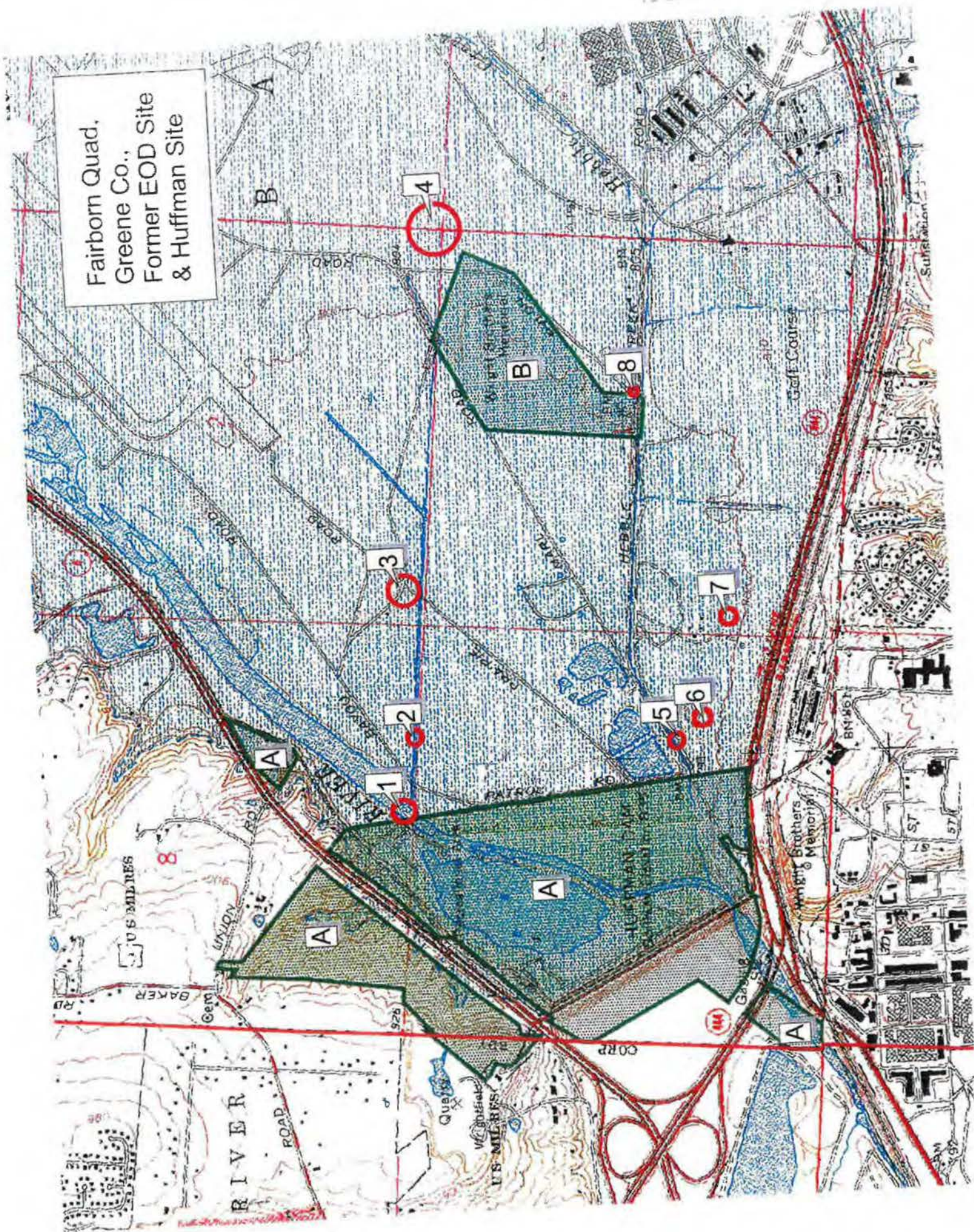
Former EOD Site & Huffman Site

- A. Huffman Metro Park - Five Rivers Metro Parks (4 parcels)
 - B. Dayton Aviation Heritage National Historical Park - National Park Service
1. *Myotis sodalis* - Indiana Bat, E, FE
 2. *Myotis sodalis* - Indiana Bat, E, FE
 3. *Myotis sodalis* - Indiana Bat, E, FE
 4. *Cistothorus platensis* - Sedge Wren, SC
 - Papaipema beeriana* - Beer's Noctuid, E
 5. *Myotis sodalis* - Indiana Bat, E, FE
 6. *Sistrurus catenatus* - Eastern Massasauga, E
 7. *Sistrurus catenatus* - Eastern Massasauga, E
 8. *Spiranthes ovalis* - Lesser Ladies'-tresses, P

There are no state nature preserves or scenic rivers at any of the three project sites. We are also unaware of any unique ecological sites, geologic features, animal assemblages, state parks, state forests or state wildlife areas within a one mile radius of any of the three project areas.



Fairborn Quad,
Greene Co.,
Former EOD Site
& Huffman Site



10/23/2008

ODNR Response



Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Natural Areas and Preserves

Steven D. Maurer, Chief

2045 Morse Rd., Bldg. F-1

Columbus, OH 43229-6693

Phone: (614) 265-6453; Fax: (614) 267-3096

October 23, 2008

Jeff Jones
Tetra Tech, Inc.
Dayton Project Office
13 & G St., Area B, AMC PO Box 33509
WPAFB, OH 45433

Dear Mr. Jones:

I have reviewed our Natural Heritage maps and files for the four proposed Field Training project sites, including a one mile radius at each site, at Wright-Patterson Air Force Base in Greene County, and on the Fairborn Quad. The search also includes a five mile radius for Indiana Bat (*Myotis sodalis*) records. The numbers/letters on the list below correspond to the areas marked on the accompanying maps. Common name, scientific name and status are given for each species. Status codes are defined as: E=endangered, P=potentially threatened, SC=species of concern and FE=federal endangered.

Fairborn Quad

Sand Hill Site

1. *Spiranthes magnicamporum* - Great Plains Ladies'-tresses, P
2. *Spiranthes magnicamporum* - Great Plains Ladies'-tresses, P

Former EOD Site & Huffman Site

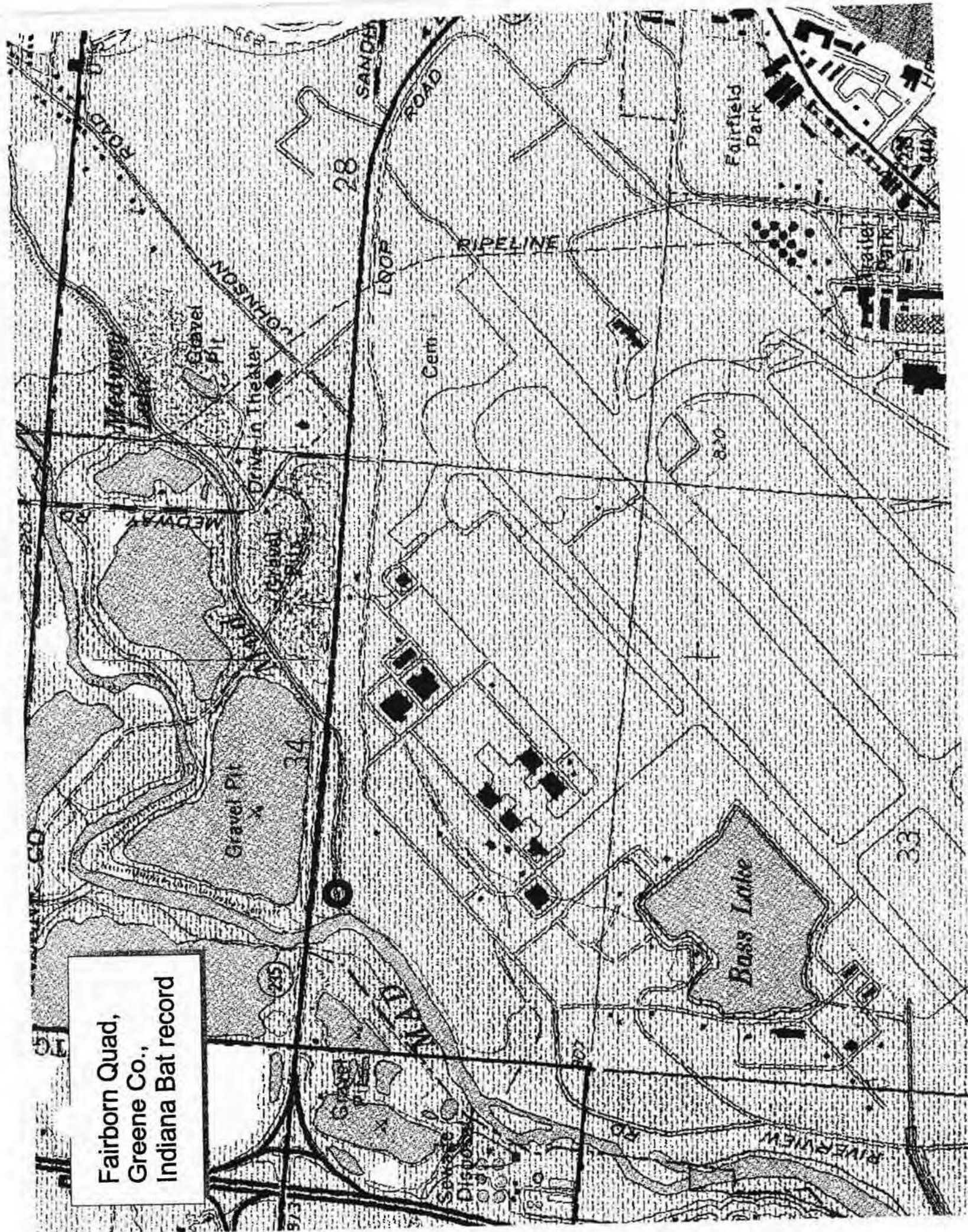
- A. Huffman Metro Park - Five Rivers Metro Parks (4 parcels)
 - B. Dayton Aviation Heritage National Historical Park - National Park Service
1. *Myotis sodalis* - Indiana Bat, E, FE
 2. *Myotis sodalis* - Indiana Bat, E, FE
 3. *Myotis sodalis* - Indiana Bat, E, FE
 4. *Cistothorus platensis* - Sedge Wren, SC
Papaipema beeriana - Beer's Noctuid, E
 5. *Myotis sodalis* - Indiana Bat, E, FE
 6. *Sistrurus catenatus* - Eastern Massasauga, E
 7. *Sistrurus catenatus* - Eastern Massasauga, E
 8. *Spiranthes ovalis* - Lesser Ladies'-tresses, P

Former ABDR Site

No data.



Fairborn Quad,
Greene Co.,
Indiana Bat record



Appendix A
Consultation Summary

Ohio Historic Preservation Office

Date	Nature of Correspondence	Consultation Issues	Outcome
11/17/2009	WPAFB Consultation Request	WPAFB request for consultation	N/A
11/23/2009	OHPO Response	No archaeological properties exist within the vicinity of the proposed project	Consultation Complete; No Impact



November 23, 2009

Janet Ferguson, Ph.D.
Chief, Operations Branch
Environmental Management Division
88 ABW/CEVO, 1450 Littrell Road
Wright-Patterson AFB, OH 45433-5209

Re: NASIC Ground Truth Compound
WPAFB, Greene County, Ohio

Dear Dr. Ferguson,

This is in response to correspondence from your office dated November 17, 2009, regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]).

The project involves a shift in emphasis in the use of an approximately 4 acre tract located on the northwest side of the main WPAFB runway. The use of this area will now focus on training personnel in the investigation of aircraft crash sites. We agree that this area has been previously included in an archaeological survey and that no significant archaeological sites were identified in or around the NASIC tract. We also agree that the proposed activities are similar to previous use and consistent with WPAFB training activities. We concur with your findings that there will be no historic properties affected by the proposed project. No further coordination with this office is necessary for this project unless there is a change in the scope of work. In addition, if new or additional properties are discovered, this office should be notified [36 CFR 800.13].

Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

David Snyder, Ph.D., RPA, Archaeology Reviews Manager
Resource Protection and Review

DMS/ds (OHPO Serial Number 1029559, Project Number 2009-GRE-9470)

OHIO HISTORICAL SOCIETY

Ohio Historic Preservation Office

1982 Velma Avenue, Columbus, Ohio 43211-2497 ph: 614.298.2000 fx: 614.298.2037
www.ohiohistory.org

Appendix A
Consultation Summary

Miami Conservancy District

Date	Nature of Correspondence	Consultation Issues	Outcome
9/23/2008	WPAFB request for consultation		Request for Consultation
10/1/2008	MCD Response	None	Consultation Complete
10/16/2008	Additional Site Clarification		Addition of site drawings to accompany original letter
2/28/2011	WPAFB Updated Request (including AMI Activities)		Updated request for consultation based on inclusion of AMI activities added to the proposed Action
3/10/2011	MCD Response	None	Consultation complete

9/23/2008

WPAFB Request for Consultation



DEPARTMENT OF THE AIRFORCE

HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

23 September 2008

88 ABW/CEVY
1450 Littrell Road, Building 22
Wright-Patterson AFB, OH 45433-5209

Kurt Rhinehart
Miami Conservancy District
38E Monument Avenue
Dayton, OH 45402

Subject: Floodplain Impacts
Environmental Assessments
Wright Patterson AFB
Greene County, Ohio

Dear Mr. Rhinehart:

Wright-Patterson AFB is preparing two Environmental Assessments for two projects designed to support training efforts on the base.

The first EA will evaluate the proposed construction and operation of the 88 ABW/CED Explosives Ordnance Disposal (EOD) proficiency training and emergency disposal range. The proposed locations for the EOD range are

- I. Former EOD range (Area C of WPAFB), elevation: 790-800 feet MSL
- II. Property north of Hebble Creek Road and west of the Huffman Prairie Flying Field (Area C of WPAFB), elevation: 795 feet MSL; and
- III. Sand Hill (north of Area C of WPAFB), elevation: 865-915 feet MSL.

The second EA will evaluate the proposed National Air and Space Intelligence Center (NASIC) and the U.S. Air Force School of Aerospace Medicine Expeditionary Medical Support (USAFSAM EMEDS) field training activities at the former Aircraft Battle Damage and Repair (ABDR) Facility site (elevation 802 feet MSL). The sites of these project alternatives are shown in Attachment 1.

As part of these assessments, we are requesting your assessment regarding the potential impacts of the project alternatives on floodplain.

The first EA involves providing proficiency training to EOD personnel. At worst case this involves 2 days/week, 4 hours/day of training. The four hours involve setting up/training for the detonation of explosive materials (maximum explosive material detonated is five pounds C4 at one time). The actual detonation/explosion takes less than one second. The "clear" zone around the detonation site is a 500 foot radius. The detonations will be performed inside a walled containment barrier, most likely concrete. On an emergency basis only, this site will also be used to detonate unexploded ordnance that come from the base or also from the public; this is a random occurrence with a frequency of maybe once/month. This project would involve constructing a precast concrete barrier six feet tall, approximately 46 feet long x 24 feet wide, with two open entrances. Two smaller barriers (approximately 6 feet long x 6 feet wide x 4 feet high) to contain tools and explosive materials, and a gravel access road and parking area would also be constructed. See Attachment 2 for examples of the barriers.

The locations of the former EOD range and the property west of the Huffman Prairie Flying Field are within the 100-year floodplain of the Mad River at Huffman Dam of 814.3 feet MSL. Structures of any type within the floodplain behind the Huffman Dam shall not be erected more than 5 feet below the Huffman Dam spillway elevation (835 feet MSL) except by Miami Conservancy District authorization. The elevation of the concrete barrier

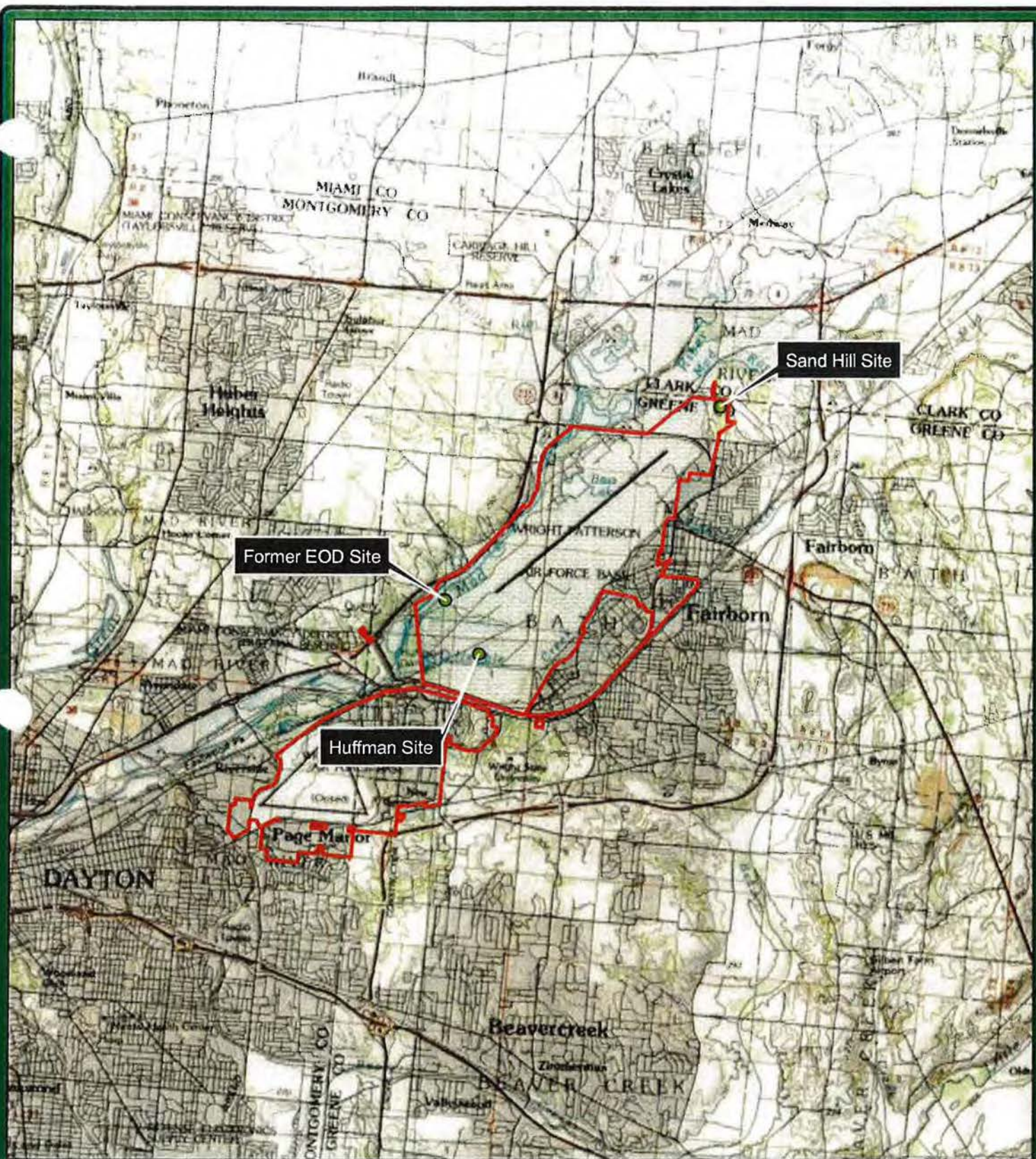
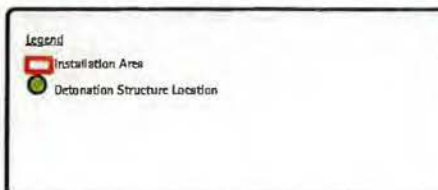
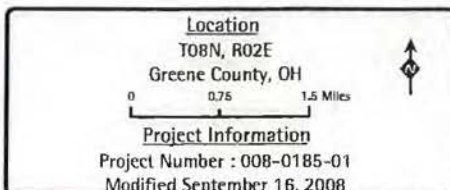


Figure 1. Project Location and Topography
Wright-Patterson Air Force Base

CONFIDENTIAL



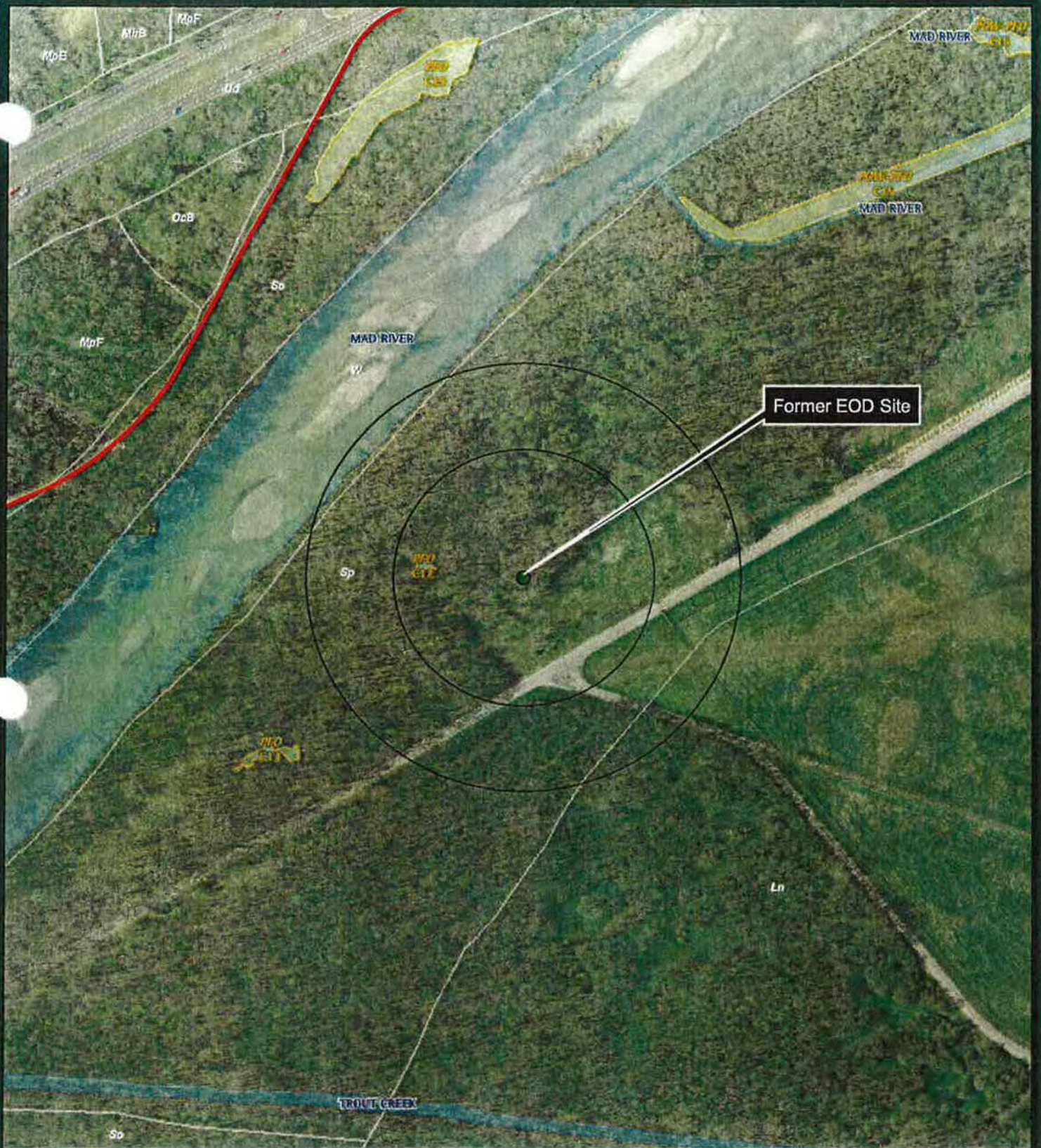


Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (500 and 500 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC

209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53027-0128
phone: 608-439-1998
fax: 608-439-1995

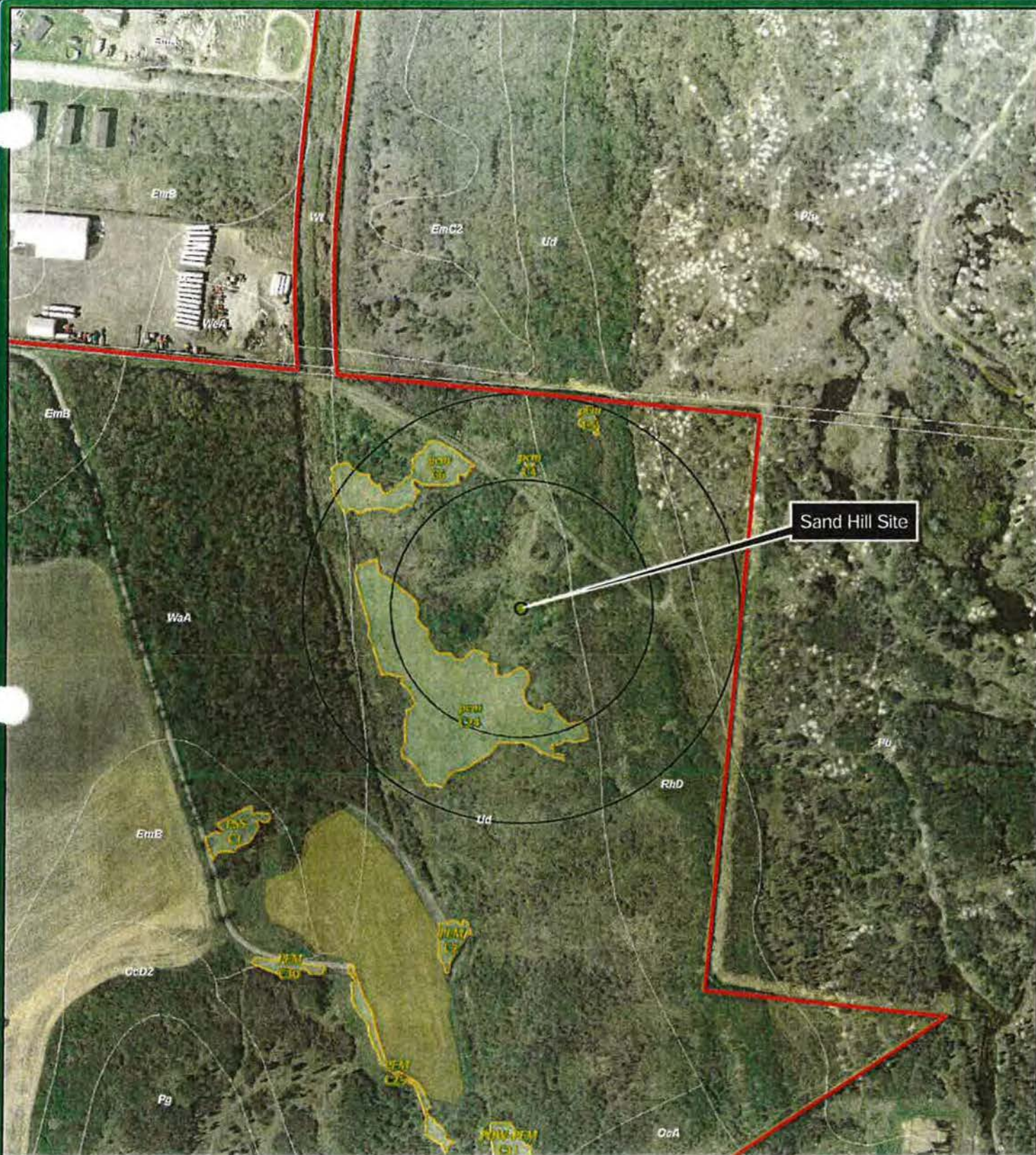


Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 600 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
National Resource Center
208 Commerce Parkway
P.O. Box 126
Cottage Grove, WI 53527-0126
phone: 608-839-1999
fax: 608-839-1055

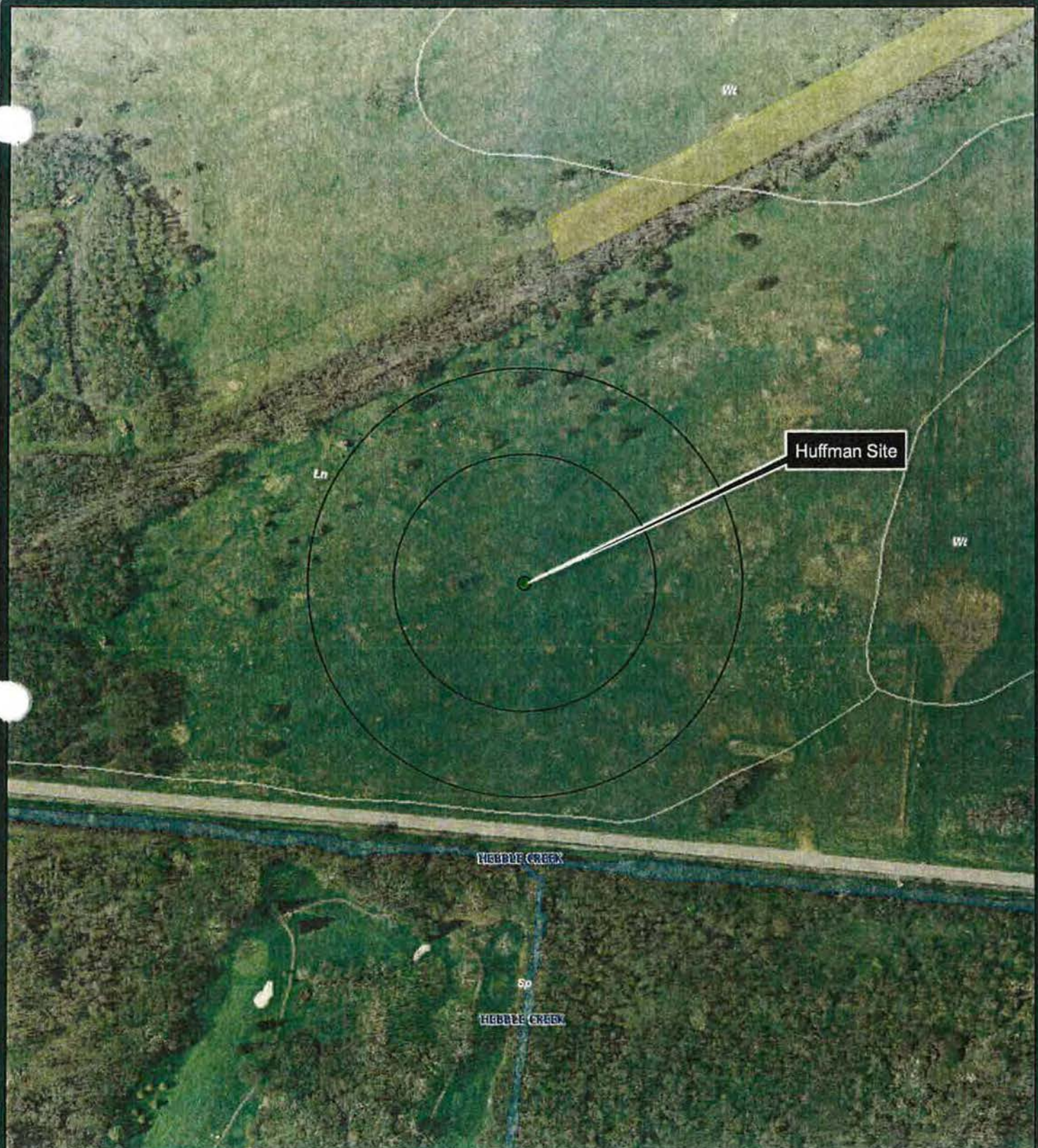


Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified September 19, 2008

Legend

- Installation Boundary
- Detonation Structure Location
- Detonation Structure Buffer (300 and 500 ft)
- Wetland Area
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

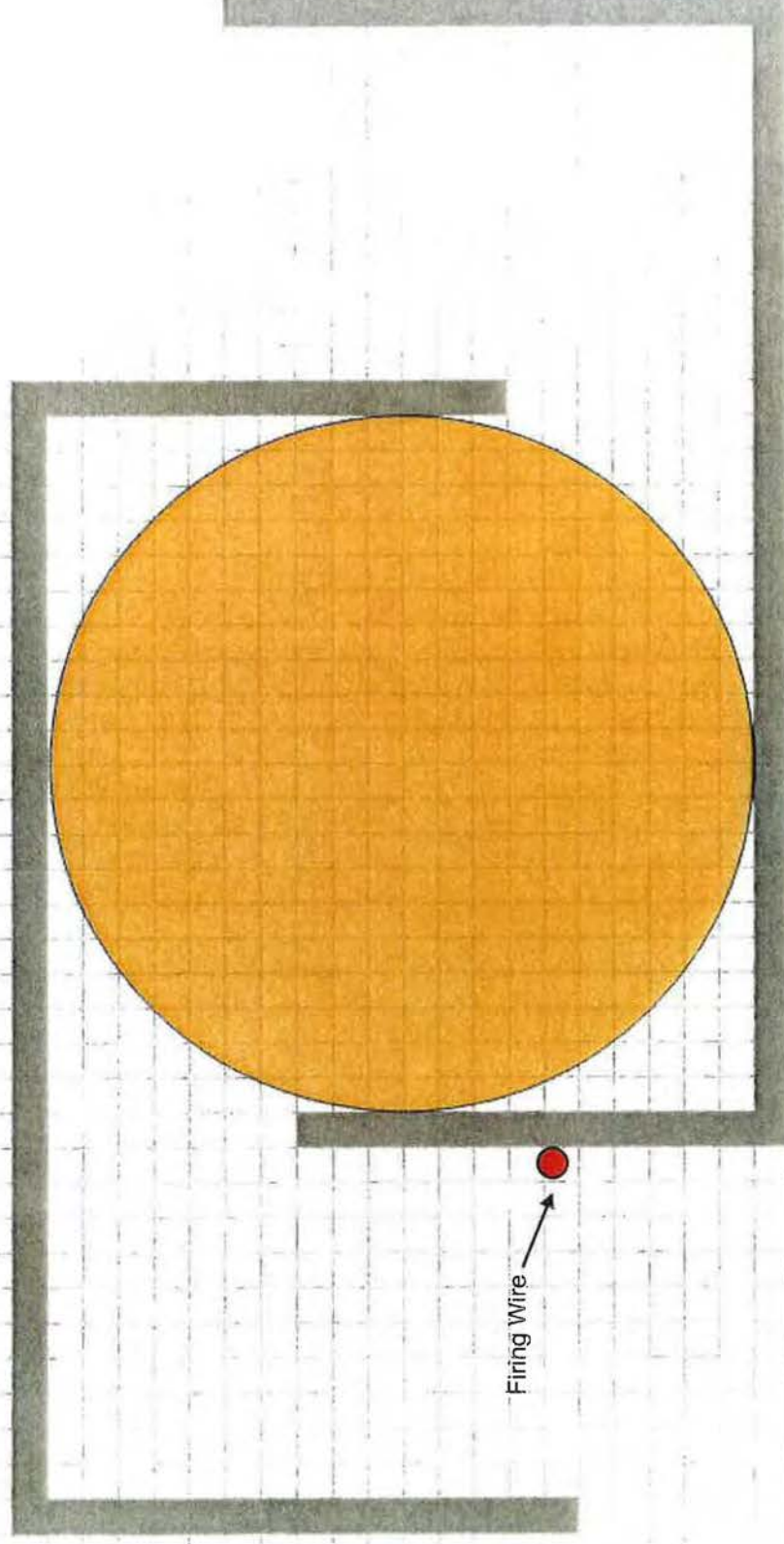
NRC
NORTHWESTERN RESOURCE CONSULTING

200 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-439-1998
fax: 608-839-1995

Suggested Option

-Area will need to be no less than 46'x 24'

-20' diameter circle



Example of Barrier



Holding Area



Tool Check Out Bunker



10/1/2008
MCD Response



**MIAMI
CONSERVANCY
DISTRICT**

BOARD OF DIRECTORS

William E. Lukens
Gayle B. Price, Jr.
Thomas B. Rentschler

GENERAL MANAGER
Janet M. Bly

October 1, 2008

*Rec'd
3 Oct 08
RFB*

Mr. Raymond F. Baker
88 ABW/CEVY
1450 Littrell Road, Building 22
Wright-Patterson AFB, OH 45433-5209

Re: Floodplain Assessment

Dear Mr. Baker:

We have reviewed the proposed development of the 88 ABW/CED Explosives Ordnance Disposal (EOD) proficiency training and emergency disposal range and the proposed development of the National Air and Space Intelligence Center (NASIC) and the U.S. Air Force School of Aerospace Medicine Expeditionary Medical Support (USAFSAM EMEDS) field training activities.

As most of the proposed building sites for the above referenced facilities are located within the Huffman Retarding Basin all development would be subject to those building restrictions as set forth by the Miami Conservancy District (MCD). Based on our review it appears the proposed facilities will have little, if any, impact on the retarding basin.

As the ground elevation at site I & II is somewhere between 790-800 feet there remains a potential for flooding at the site as indicated by the following information.

The 100-year flood pool is at elevation 814.3

The 200-year flood pool is at elevation 817.6

MCD has the right to back water upstream of Huffman dam to a spillway elevation of 835.0

Your cooperation regarding this matter is appreciated and if you have any further questions please contact me at (937) 223-1278, ext. 3219.

Very truly yours,

Richard L. Doran
Property Administrator

cc: Kurt Rinehart

File: WPAFB

10/16/2008

Additional Site Clarification



CTI and Associates, Inc.

12482 Emerson Drive Brighton, MI 48116 248.486.5100 248.486.5050 Fax

October 16, 2008

Kurt Rhinehart
Miami Conservancy District
38E Monument Avenue
Dayton, OH 45402

**Subject: Floodplain Impacts
Environmental Assessments
Wright Patterson AFB
Greene County, Ohio**

Dear Mr. Rhinehart:

On behalf of 88 ABW/CEVY at Wright Patterson AFB (WPAFB), CTI and Associates, Inc. (CTI) is providing the attached four (4) figures for inclusion with the letter requesting agency consultation submitted on September 23, 2008. The letter clearly identifies the scope of the proposed activities at the Former ABDR site located at WPAFB, however, the figures detailing the specific location and environment were inadvertently omitted from the original letter.

We appreciate your consideration of this additional support information. Please contact Raymond Baker, WPAFB, at (937) 257-0177 if there are questions regarding this addendum or the information provided in the original request letter.

Sincerely,
CTI and Associates, Inc.

A handwritten signature in black ink, appearing to read 'TZick', is written over the printed name 'Terri Zick'.

Terri Zick
Director of Compliance Services

Cc: Raymond Baker, WPAFB
Jeff Jones, Tetra Tech

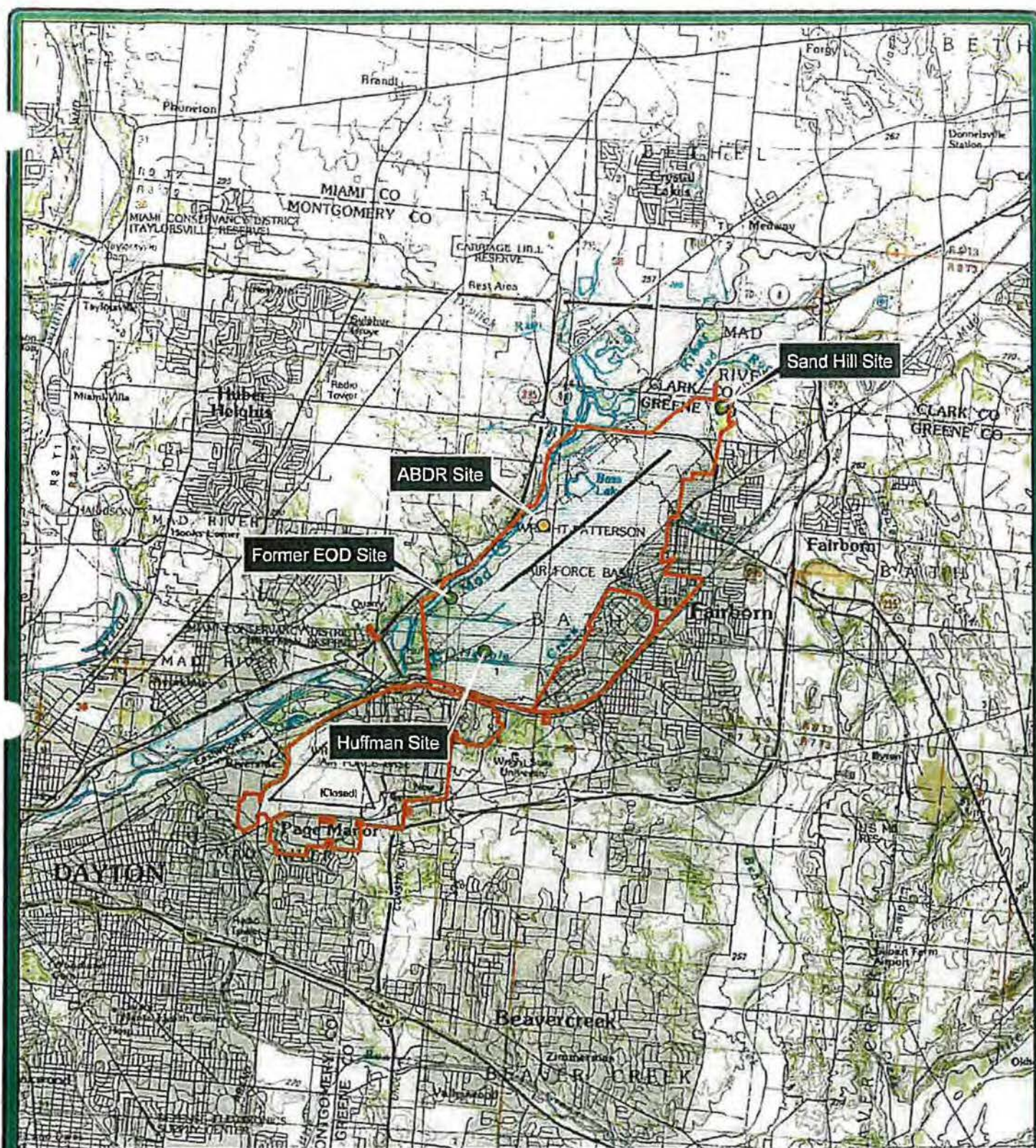


Figure 1. Project Location and Topography
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

0 0.75 1.5 Miles

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

- Installation Area
- Detonation Structure Location
- ABDR Site

NRC
National Resources Consulting, Inc.

202 Commerce Parkway
P.O. Box 111
Cottage Grove, WI 53527-0111
phone: 608-429-1908
fax: 608-810-1065

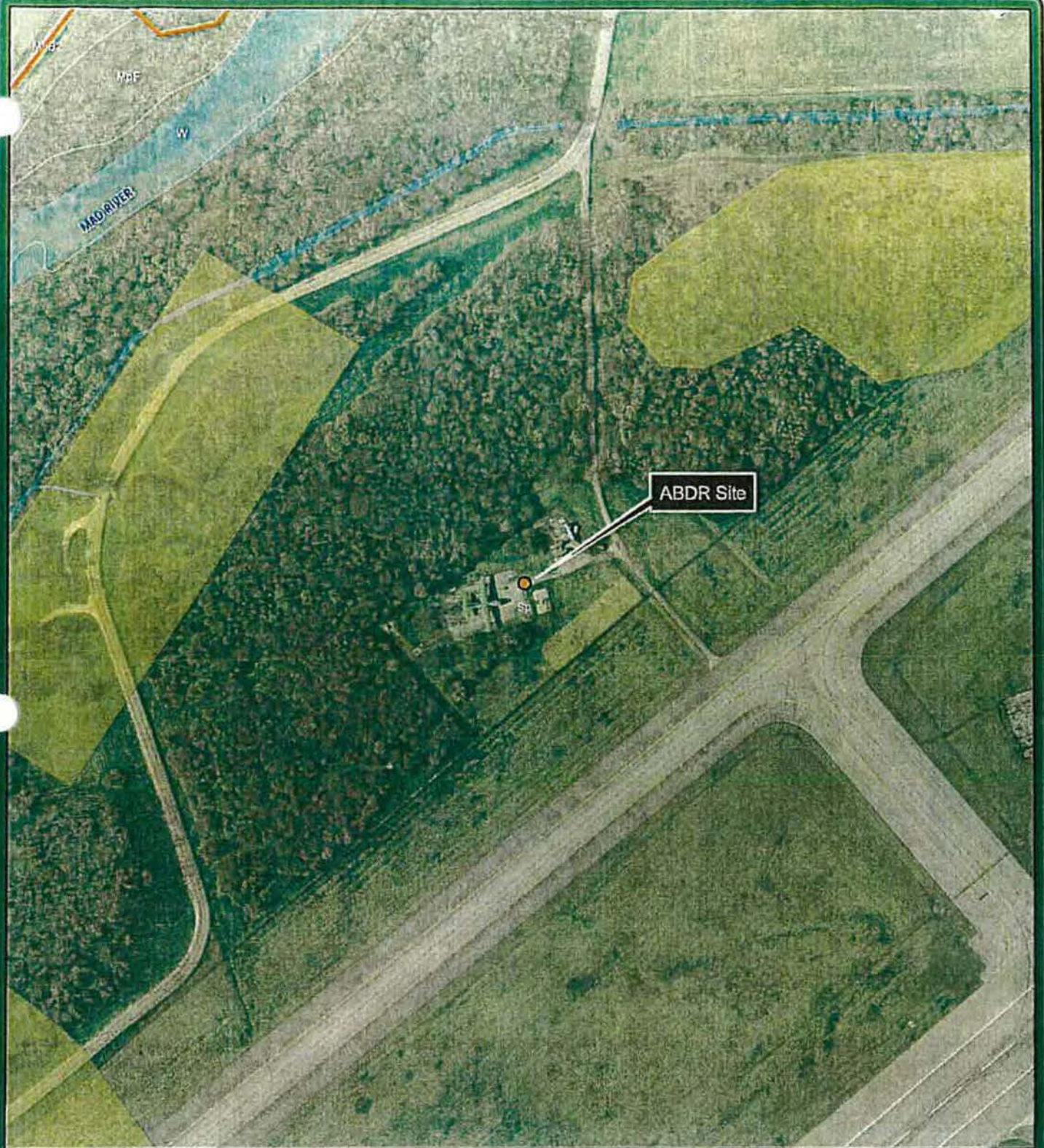


Figure 2. Environmental Features
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
TO8N, R02E
Greene County, OH

0 150 300 Feet

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

- Installation Boundary
- ABDR Site
- Environmental Restoration Site
- Soil Map Unit Area
- Waterway

NRC
Nuclear Regulatory Commission

200 Commerce Parkway
P.O. Box 100
Cottage Grove, WI 53527-0100
phone: 608-837-1998
fax: 608-837-1995

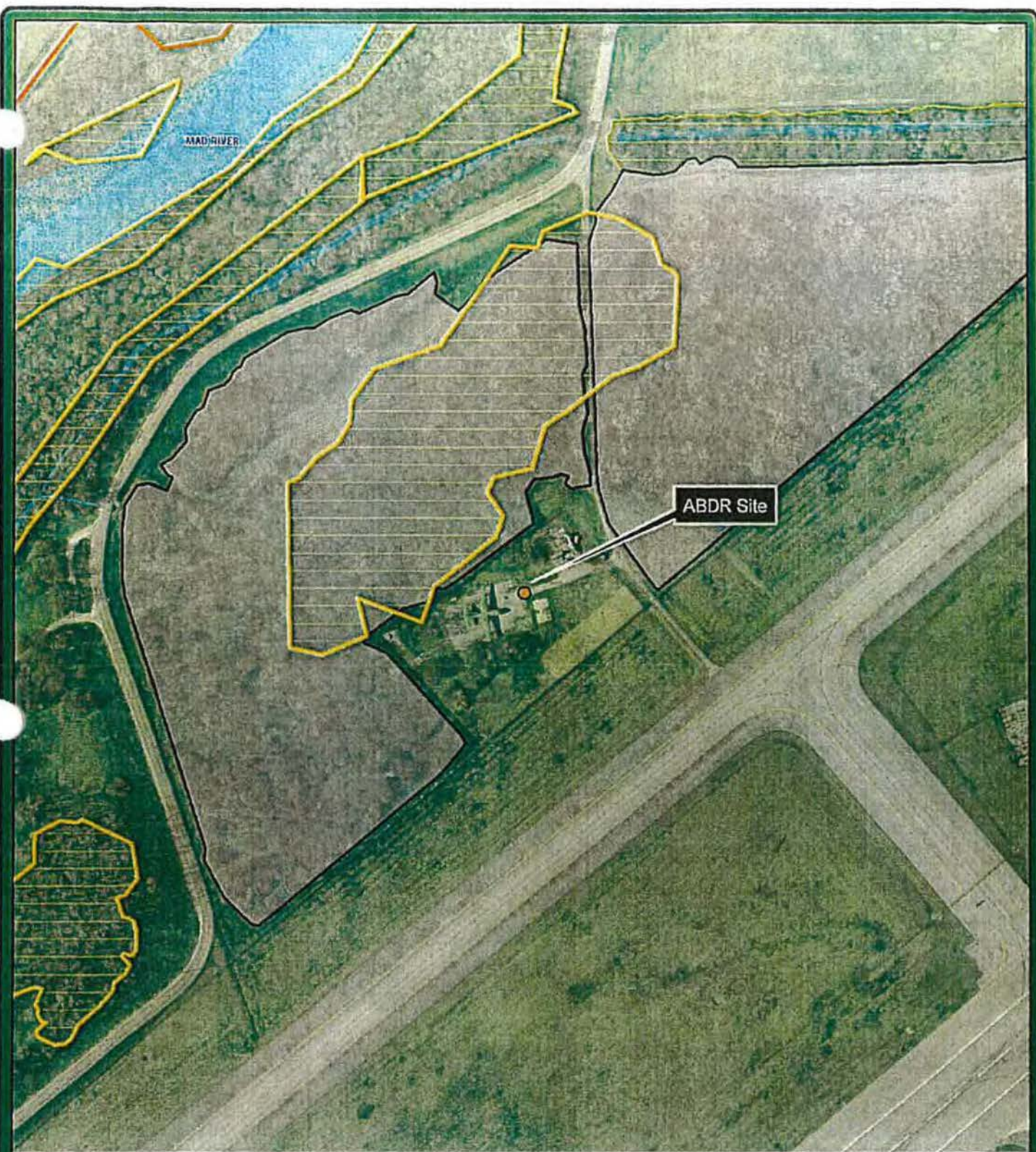


Figure 3. Threatened and Endangered Species Occurrences
Wright-Patterson Air Force Base

CONFIDENTIAL



Location
T08N, R02E
Greene County, OH

Project Information
Project Number : 008-0185-01
Modified October 9, 2008

Legend

Installation Boundary	Clubshell
ABDR Site	Indiana Bat
Bald Eagle	Waterway
Blazing Star Stern Borer	

NRC
National Resources Consulting, Inc.

201 Commerce Parkway
P.O. Box 128
Cathage, OH 45317-0128
phone: 603-839-1993
fax: 603-839-1995

2/28/11

Follow Up Consultation Request



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

28 February 2011

88 ABW/CEANQ
1450 Littrell Road, Building 22
Wright-Patterson AFB OH 45433-5209

Ms. Roxanne Farrier
Miami Conservancy District
38 E. Monument Avenue
Dayton, OH 45402-1265

Dear Ms Farrier:

On September 23, 2008, Wright-Patterson Air Force Base (WPAFB) formally requested the Miami Conservancy District (MCD) assess the proposed action associated with the preparation of an Environmental Assessment (EA) for the National Air and Space Intelligence Center (NASIC) and the U.S. Air Force School of Medicine (USAFSAM) field training activities at the Aircraft Battle Damage and Repair (ABDR) Facility site (elevation 802 feet MSL). The ABDR site is located within the 100-year floodplain of the Mad River. The MCD response letter dated October 1, 2008 is provided as attachment 2. This correspondence has been prepared to formally request your evaluation regarding the potential impacts associated with changes to the proposed field training activities on the floodplain and retarding basin.

The amended proposed action involves utilizing the existing facility of the former ABDR, and minor site improvements for mobile medical facility training. This addendum replaces the Expeditionary Medical Support (EMEDS) training with the Aircraft Mishap Investigation (AMI) training. The AMI training site would have three (3) aircraft accident working areas: T-38 and C-130 aircraft fuselages as well as an impact crater site. The impact crater site is proposed to be approximately 30 feet in diameter and 8 feet in depth (water table permitting) surrounded by an adjacent mound equal to roughly one-half the depth of the crater. It is acceptable if the crater is 4 feet deep with a built-up mound comparable to an 8 ft depth (total depth of crater is 4 ft below and 4 ft above ground). The working areas and storage building for support materials must be in a securable (fenced) field site with parking area for students/staff. The working area should be flat, grassy or slightly rolling terrain in an area no less than 4 acres to allow for teaching quadrant searches and other training. Within the securable area there needs to be storage (minimum of 400 sq ft) that is lockable and has shelving storage for smaller wreckage parts, life support equipment, three ejection seats, parachute canopies, mannequins, and other mishap equipment.

The AMI training would occur throughout the year for the following courses: Aircraft Mishap Investigation & Prevention (2x), Aerospace Medicine Primary Course (8-10x), Aerospace & Operational Physiology Officer Course (1x), Flight Medicine Management Workshop (10x). Total usage days: approximately 25/year. Total number of students: approximately 800/year, with average class size of 30 students.

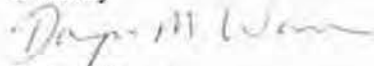


Printed

Recycled Paper

Thank you for your consideration. Please return your comments to me at the above address. If you have any questions, please contact me at (937) 257-4857 or by email at Darryn.Warner@wpaibaf.mil

Sincerely,



Darryn Warner
Environmental Quality Section
Asset Management Division

cc: Mr. Kurt Rinehart

Attachments

1. WPAFB Letter Dated September 23, 2008 Letter
2. MCD Response Letter Dated September 23, 2008 Letter

3/10/11
MCD Response



BOARD OF DIRECTORS
William E. Lukens
Gayle B. Price, Jr.
Thomas B. Rentschler

GENERAL MANAGER
Janet M. Bly

March 10, 2011

Mr. Darryn Warner
88 ABW/CEANQ
1450 Littrell Road, Building 22
Wright-Patterson AFB, OH 45433-5209

Re: Huffman Retarding Basin, WPAFB, Proposed ABDR field training

Dear Mr. Warner:

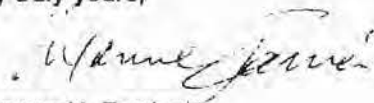
We have reviewed the changes to the proposed field training activities for the Aircraft Battle Damage and Repair (ABDR) Facility site at WPAFB.

As most of the training activities are located within the Huffman Retarding Basin all development would be subject to those building restrictions as set forth by the Miami Conservancy District (MCD).

Based on our review it appears the proposed project will have little impact on the retarding basin, however, if fill material is to be placed anywhere on the property below the spillway elevation of 835.0 prior written approval must be obtained from MCD.

Thank you for the opportunity to review the project and if you have any further questions please contact me at (937) 223-1278, ext. 3230.

Very truly yours,


Roxanne H. Farrier
Property Administrator

RHF:rmc

cc: Kurt Rinehart

File: WPAFB

APPENDIX B

AIR EMISSIONS CALCULATIONS

APPENDIX B

Daily Anticipated Emissions Due to Gasoline & Diesel Engines					
Pollutant	Gasoline Engine ¹		Diesel Engine ¹		TOTAL
	Emissions Factor (lb/hp-hr)	Daily Emissions (lbs)	Emissions Factor (lb/hp-hr)	Daily Emissions (lbs)	Daily Emissions (lbs)
NOX	0.011	1.59	0.031	4.98	6.58
CO	0.439	63.61	6.68E-03	1.07	64.69
SOx	5.91E-04	0.09	2.05E-03	0.33	0.42
PM-10	7.21E-04	0.10	2.20E-03	0.35	0.46
Aldehydes	4.85E-04	0.07	4.63E-04	0.07	0.14
Total Organic Compounds		3.13		0.404	3.53
Exhaust	1.50E-02	2.17	2.47E-03	0.40	2.57
Evaporative	6.61E-04	0.10	0.00E+00	0.00	0.10
Crankcase	4.85E-03	0.70	4.41E-05	0.01	0.71
Refueling	1.08E-03	0.16	0.00E+00	0.00	0.16

Engine and Operations Information

Six (6) 6 kW gasoline engine = 8.05 hp gasoline engine
 Two (2) 20 kW diesel engine = 26.8 hp diesel engine
 Hours of Operations = 3 hours

Tenative Training Event (Summer 2009)		
Pollutant	Diesel Engine ¹	
	Emissions Factor (lb/hp-hr)	Daily Emissions (lbs)
NOX	0.031	105.4
CO	6.68E-03	22.7
SOx	2.05E-03	7.0
PM-10	2.20E-03	7.5
Total Organic Compounds		8.5
Exhaust	2.47E-03	8.4
Evaporative	0.00E+00	0.0
Crankcase	4.41E-05	0.1
Refueling	0.00E+00	0.0

Engine and Operations Information

One (1) 1.25 mW diesel engine = 1700 hp diesel engine
 Hours of Operation = 2 hours

Maximum Training Operations to Meet De Minimus Requirements					
Pollutant	Gasoline Engine ¹		Diesel Engine ¹		TOTAL
	Emissions Factor (lb/hp-hr)	Daily Emissions (lbs)	Emissions Factor (lb/hp-hr)	Daily Emissions (lbs)	Daily Emissions (lbs)
NOX	0.011	0.22	0.031	2.49	2.72
CO	0.439	8.96	6.68E-03	0.54	9.49
SOx	5.91E-04	0.01	2.05E-03	0.16	0.18
PM-10	7.21E-04	0.01	2.20E-03	0.18	0.19
Aldehydes	4.85E-04	0.01	4.63E-04	0.04	0.05
Total Organic Compounds		0.44		0.20	0.64
Exhaust	1.50E-02	0.31	2.47E-03	0.20	0.50
Evaporative	6.61E-04	0.01	0.00E+00	0.00	0.01
Crankcase	4.85E-03	0.10	4.41E-05	0.00	0.10
Refueling	1.08E-03	0.02	0.00E+00	0.00	0.02

Engine and Operations Information

One (1) 5 kW gasoline engine = 6.8 hp gasoline engine
 One (1) 20 kW diesel engine = 26.8 hp diesel engine
 Hours of Operations = 3 hours

NOTES:

1. Section 3.3 "Gasoline and Diesel Industrial Engines" dated (1/95), of AP-42 "Compilation of Air Pollutant Emission Factors, 5th Edition, U.S. EPA, Research Triangle Park, NC, 1998

APPENDIX C

PHOTOGRAPHIC PLATES

DATE:
09/04/08

PHOTOGRAPHER:
MATT SCHRAMM

LOCATION:
NASIC GROUND
TRUTH COMPOUND

DIRECTION:
NORTH



WOODLAND ON MARGINS OF SITE

DATE:
09/04/08

PHOTOGRAPHER:
MATT SCHRAMM

LOCATION:
NASIC GROUND
TRUTH COMPOUND

DIRECTION:
NORTH



EAST END OF THE SITE

SITE PHOTOGRAPHS

**NASIC GROUND TRUTH
COMPOUND ALTERNATIVE**

PROJ: 085010037

SCALE: NONE

DATE: 11/09/08

PLATE: I

DATE:
09/04/08

PHOTOGRAPHER:
MATT SCHRAMM

LOCATION:
NASICS GROUND
TRUTH COMPOUND

DIRECTION:
NORTHWEST



REPORTED DRAINAGE SWALE

DATE:
09/04/08

PHOTOGRAPHER:
MATT SCHRAMM

LOCATION:
NASICS GROUND
TRUTH COMPOUND

DIRECTION:
NORTHEAST



TYPICAL HABITAT

SITE PHOTOGRAPHS

**NASICS GROUND TRUTH
COMPOUND ALTERNATIVE**

PROJ: 085010037

SCALE: NONE

DATE: 11/09/08

PLATE: II

DATE:
09/07/08

PHOTOGRAPHER:
L. Zavakos

LOCATION:
Brooks City Base, TX

DIRECTION:
N/A-Conceptual



CONCEPTUAL LAYOUT OF AIRCRAFT MISHAP INVESTIGATION ACTIVITIES



PROJECT LOCATION

SITE PHOTOGRAPHS

NASIC GROUND TRUTH COMPOUND ALTERNATIVE

PROJ: 085010037

SCALE: NONE

DATE: 04/05/11

PLATE: III

APPENDIX D

LAND USE AGREEMENT

LAND USE AGREEMENT
Between
88TH Air Base Wing,
And the
National Air & Space Intelligence Center (NASIC)
For Use and Management of the former Air Battle Damage Repair Training Site
Area C Wright-Patterson AFB

I. PURPOSE

- A. This Land Use Agreement (LUA) formally establishes the roles and responsibilities for overall use and management of the former Area C Air Battle Damage Repair (ABDR) Training Site, hereafter referred to as the *Training Site*.
- B. This LUA defines the process for evaluating and approving Training Site users and their respective activities.
- C. The intent of this LUA is to establish a primary user, responsible for managing and coordinating activities at the Training Site to meet the requirements of the primary user as well as other known and unknown users.

II. BACKGROUND

- A. The Training Site encompasses approximately 3.7 acres of generally cleared airfield land about 225 feet northwest of Taxiway "A" in Area C, Wright-Patterson AFB, Ohio. This active taxiway is the principle parallel taxiway serving Runway 05L/23R, which is the primary installation runway (See Map at Attachment 1).
 - 1. Site infrastructure/utilities support is limited to a single, direct-buried communications line.
- B. The 445 MXS was the original user of the Training Site conducting Air Battle Damage Repair training to reservists in the unit. The units ABDR mission has now been disestablished and the site, as well as the cannibalized aircraft are no longer required by the 445 MXS.
- C. The 445 MXS has given NASIC access to the site for use in mission related activities. NASIC has taken control of the site and maintains entry control into the area.
- D. The United States Air Force School of Aerospace Medicine (USAFSAM), moving to WPAFB due to BRAC 2005, has a field training requirement to conduct aircraft crash investigation. The USAFSAM requirement "Aircraft Mishap Investigation & Prevention Course" is a single-day class and is presently conducted approximately 30 times a year. USAFSAM is very interested in using the existing cannibalized aircraft to conduct their training to avoid the expense of shipping their existing mock-ups from Brooks City Base TX.
- E. The Air Base Wing's Explosive Ordnance Disposal (EOD) unit (88 ABW/CED) has an interim requirement for a location to conduct off-range operations in support of unit training, inspections, and evaluations using specific explosive tools and procedures described in AFMAN 91-201, *Explosives Safety Standards*. Estimated usage is approximately twice a week (2 hours per session). EOD will require ~25' x 25' of area within the site to stack sandbags to create this interim off-range training area.
- F. The 445 MXS has ownership of the cannibalized aircraft presently on the site (a C-130 and an F-4). 445 MXS are in the process of transferring ownership of the aircraft to NASIC for use by both NASIC and USAFSAM.

III. ROLES AND RESPONSIBILITIES

A. **NASIC**, as the initial user of the Training Site and future owner of the cannibalized aircraft, is responsible for managing the site and scheduling and coordinating all approved activities conducted at the site, to include, but not limited to, USAFSAM and 88 ABW/CED requirements listed above.

B. **The 88 ABW**, as the installation host and overall property manager, is responsible for the Training Site's maintenance & construction (IAW applicable Host-Tenant Support Agreements); security; and airfield operations. The following offices or individuals are responsible for specific requirements for approved access and use of the Training Site.

1. The 88 ABW/CECX, Plans and Programs branch will have primary responsibility for receiving and processing permits for all off-base, Department of Defense (DoD) users, and licenses for all off-base, Non-DoD users. They are also responsible for evaluating and approving any training activities that require excavation, installation of permanent or temporary structures or equipment, or alteration of existing pavement, structures or installed equipment.
2. The 88 ABW/CEV, Environmental Management Division, has primary responsibility for evaluating activities for potential adverse impact.
3. The 88 ABW/SEW, Weapons Safety Division, has primary responsibility for evaluating activities for explosion and projectile hazard risk.
4. The 88 ABW/OSS, Operations Support Squadron, has primary responsibility for managing airfield operations for all flying activities near the site.
5. Please refer to existing Support Agreements (DD FORM 1144) to which the 88ABW is a party for other necessary roles and responsibilities not identified above.

IV. SPECIFIC PROVISIONS

A. The Training Site is an access controlled area on Wright-Patterson AFB, a Department of Defense installation. All users, whether assigned to the installation or not, are subject to all laws, regulations, and standards applicable to the installation.

B. In general, approved Training Site uses will be those that for safety or operational security reasons, would merit access to a large, controlled-access, outdoor environment such as this. Additionally they shall meet the following minimum requirements:

1. Shall not pose an unacceptable risk of adverse impact to the existing environmental conditions. At least thirty (30) days before the requested activity, users must submit an AF Form 813, "Request for Environmental Impact Analysis" to 88 ABW/CEV for all proposed actions conducted at the Training Site.
2. Shall not pose an unacceptable risk to the health, safety, and welfare of persons inside the Training Site, or in areas immediately adjacent to or surrounding the Training Site.

C. All users shall maintain a current Training Site request file with 88 ABW/CECX. The file must include at a minimum the following non-classified items:

1. Initial Training Site Use Request form.
2. Bullet Background Paper containing a concise activity description, including potential site preparation, and equipment or facility installations.
3. Photos, drawings, or other graphics that best convey the nature, scope, and unique requirements of the activity.
4. A copy of the Training Site use permit or license issued by 88 ABW/CECX (applies to Off-base users only).

D. On-base users shall submit an initial Training Site use request directly to the NASIC scheduling office at least thirty (30) days before the requested activity, and send a copy of the request to 88 ABW/CECX. NASIC will tentatively schedule the activity, while coordinating the request through all current users via email. If after ten (10) days there are no irresolvable objections or serious concerns, the scheduler will consider the schedule firm.

E. Off-base users shall submit an initial Training Site use request directly to 88 ABW/CECX at least forty-five (45) days before the requested activity. The requester will be notified within fifteen (15) working days of one of three decisions:

1. Approved: **meets allowable use requirements**
2. Disapproved: **does not meet allowable use requirements**
3. Conditionally Approved: **additional review required**

If the request is *Approved*, a permit or license will be issued to the requester, who then submits a scheduling request to the NASIC scheduling office. If the request is *Conditionally Approved*, it means the requested use seems to meet allowable use requirements, but 88 ABW/CECX needs additional information to confirm final approval.

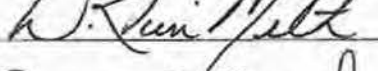
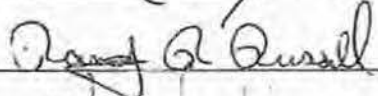
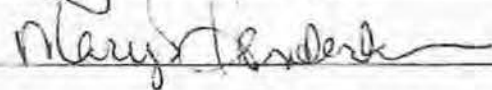
F. All users shall adhere to a "No Trace" policy. All areas used, including movement and travel routes, shall be, to the extent possible, in the same condition as when the users arrived on site.

V. AUTHORITY

- A. This LUA will be effective and binding from the date of the last signature below.
- B. This LUA may be cancelled by mutual consent of the parties concerned.
- C. Submit required or requested changes to this LUA in writing to 88 ABW/CECX

VI. COORDINATION

A. The following have reviewed and concurred with the provisions of this LUA.

1. 88 OSS/CC:  Date: 21 Jan 08
2. ASC/SEW:  Date: 17 Nov 08
3. 445 MSG/CC:  Date: 18 Dec 08

VII. AGREEMENT CERTIFICATION



DENNIS R. MATTSON, CFM
Director
Civil Engineer Directorate
88th Air Base Wing

Date: 27 Jan 09



DONALD R. LEWIS, Lt Col, USAF
Director, Mission Support
National Air & Space Intelligence Center

Date: 1 Apr 09


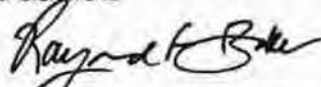
1 Attachment:
Site Map



The proposed training site encompasses 3.7 acres of generally cleared airfield land about 225 feet northwest of Taxiway "A". This active taxiway is the principle parallel taxiway serving Runway 05L/23R, which is the primary installation runway. Site infrastructure/utilities support is limited to a single, direct-buried communications line.

APPENDIX E

CATEGORICAL EXCLUSION

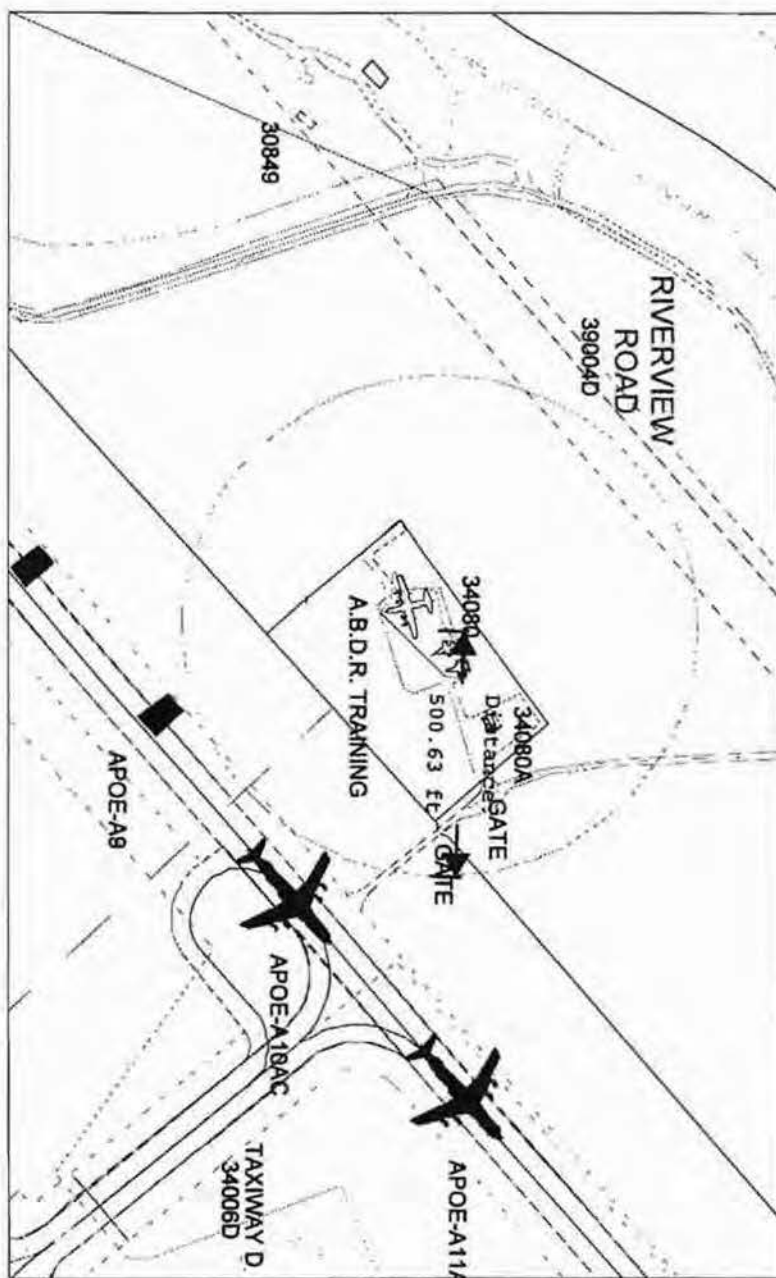
REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS			Report Control Symbol RCS:	
INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).				
SECTION I - PROPONENT INFORMATION				
1. TO (Environmental Planning Function) 88 ABW/CEVO		2. FROM (Proponent organization and functional address symbol) 88th ABW/CED SSgt Philip Andrews		2a. TELEPHONE NO. 7-5290
3. TITLE OF PROPOSED ACTION Establish EOD Training Position for qualification shots in the field next to bldg 30059 and Former ABR				
4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date) See Continuation Sheet				
5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAA) (Provide sufficient details for evaluation of the total action.) See Continuation Sheet				
6. PROPONENT APPROVAL (Name and Grade) PATRICK A. CAZALET, TSgt, USAF Chief, EOD Division		6a. SIGNATURE 		6b. DATE 30 Oct 2007
SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)				
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.) Temporary, minor increase in noise from firing blanks & detonating cord.			<input type="checkbox"/>	<input type="checkbox"/>
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.) Temporary, minor increase in air emissions from firing blanks & detonating cord.			<input type="checkbox"/>	<input type="checkbox"/>
9. WATER RESOURCES (Quality, quantity, source, etc.)			<input type="checkbox"/>	<input type="checkbox"/>
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.) Coordinate w/ ABW/SE (Safety office)			<input type="checkbox"/>	<input type="checkbox"/>
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.) Ensure all wastes, i.e. blanks, shells, etc. are disposed of properly.			<input type="checkbox"/>	<input type="checkbox"/>
12. BIOLOGICAL RESOURCES (Wetlands/floodplains, threatened or endangered species, etc.) The A.B.R. Facility is w/in The floodplain, however training will not impact floodplain.			<input type="checkbox"/>	<input type="checkbox"/>
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)			<input type="checkbox"/>	<input type="checkbox"/>
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)			<input type="checkbox"/>	<input type="checkbox"/>
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)			<input type="checkbox"/>	<input type="checkbox"/>
16. OTHER (Potential impacts not addressed above.)			<input type="checkbox"/>	<input type="checkbox"/>
SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION				
17. <input checked="" type="checkbox"/> PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # <u>A2.3.11</u> <input type="checkbox"/> PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.				
18. REMARKS A2.3.11 - The proposed action is similar to another action (Cumulative Impacts of Military Training Exercises at Prime BEEF) that has been determined to have an insignificant impact in a similar setting as established in an environmental assessment resulting in a Finding of No Significant Impact (FONSI). The FONSI was signed by Col Michael Collings, USAF Commander on 22 Mar 99.				
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) RAYMOND F. BAKER, YD-02 88 ABW/CEVO		19a. SIGNATURE 		19b. DATE 9 Nov 07

4.0 Purpose and Need for Action

- Briefly describe the mission mandate or project objectives (i.e. customers served) that are driving the proposed action: IAW AFI 32-3001 and AFMAN 91-201 para 3.28 EOD personnel are required to perform, at a minimum, monthly proficiency training using the listed items at off range locations on AF installations. An ideal location would be next to the EOD Facility (Bldg 30059). Additionally, we are interested in performing demo procedures at the old ABDR facility on the far side of the flightline. Both areas are being coordinated through the 88th ABW/SEW office.
- Communicate the sense of Why here? Why now? EOD is a brand new organization assigned to the Civil Engineer Directorate. We have been on station since 25 Sept 2007. This is part of standing up a brand new EOD Team.
- Identify the need date: Immediately
- Identify related EISs/EAs (if applicable):

5.0 Description of Proposed Action

- Identify proposed start date and end date: This is being requested for continual reoccurring qualification/training/demonstrations
- Identify where action will occur, including maps/drawings: Map is attached with the required 100ft clear zone next to Bldg 30059 and 500ft clear zone in the old ABDR Facility.
- Briefly describe the proposed action and alternative(s), including number of people affected by action: There are no alternatives. Area will be used to maintain EOD proficiency for the 17 personnel which will be assigned.
- If chemicals used, list name and quantity: cartridge actuated tools / detonating cord (*explosive cord, explodes - nothing left*)
Detonating cord used only at fire training facility
- If wastes generated, list name and quantity: These are fully self containing items, .50 caliber blank cartridges and 12 gauge blank shotgun shells
- water cannon - robot
- air, no projectiles
- List any noise generated, accident potential, or land use: Small detonations from explosive cartridge actuated tools
- List any impacts to air quality, i.e. are air emissions generated at WPAFB: None
- List any impacts to water resources, i.e. drinking water consumed or wastewater generated at WPAFB: None
- List any impacts to ground or soil, i.e. construction, digging, excavating at WPAFB: Small sand filled pit could be made 3ft x 3ft x 8in
- List any asbestos, radioactive materials, explosives, ordinances, ammunition blanks used at WPAFB: As above: Det cord, .50 Caliber Cartridges and 12 gauge shotgun shells.
- List quantity of vehicles or equipment brought on-site to WPAFB: None
- The proponent of this action shall make an effort to ensure compliance with the Affirmative Procurement requirements of Section 6002 of the Resource Conservation and Recovery Act and Executive Order 13101. WPAFB requires the use of recycled and recovered materials and products identified in the EPA's Comprehensive Procurement Guidelines available at the following website: <http://www.epa.gov/cpg/products.htm>. All documents generated as part of this project shall be printed or copied double-sided on recycled paper that meets minimum content standards specified in Section 505 or Executive Order 13101.
- A revised AF Form 813 will be processed for any changes to the work proposed.





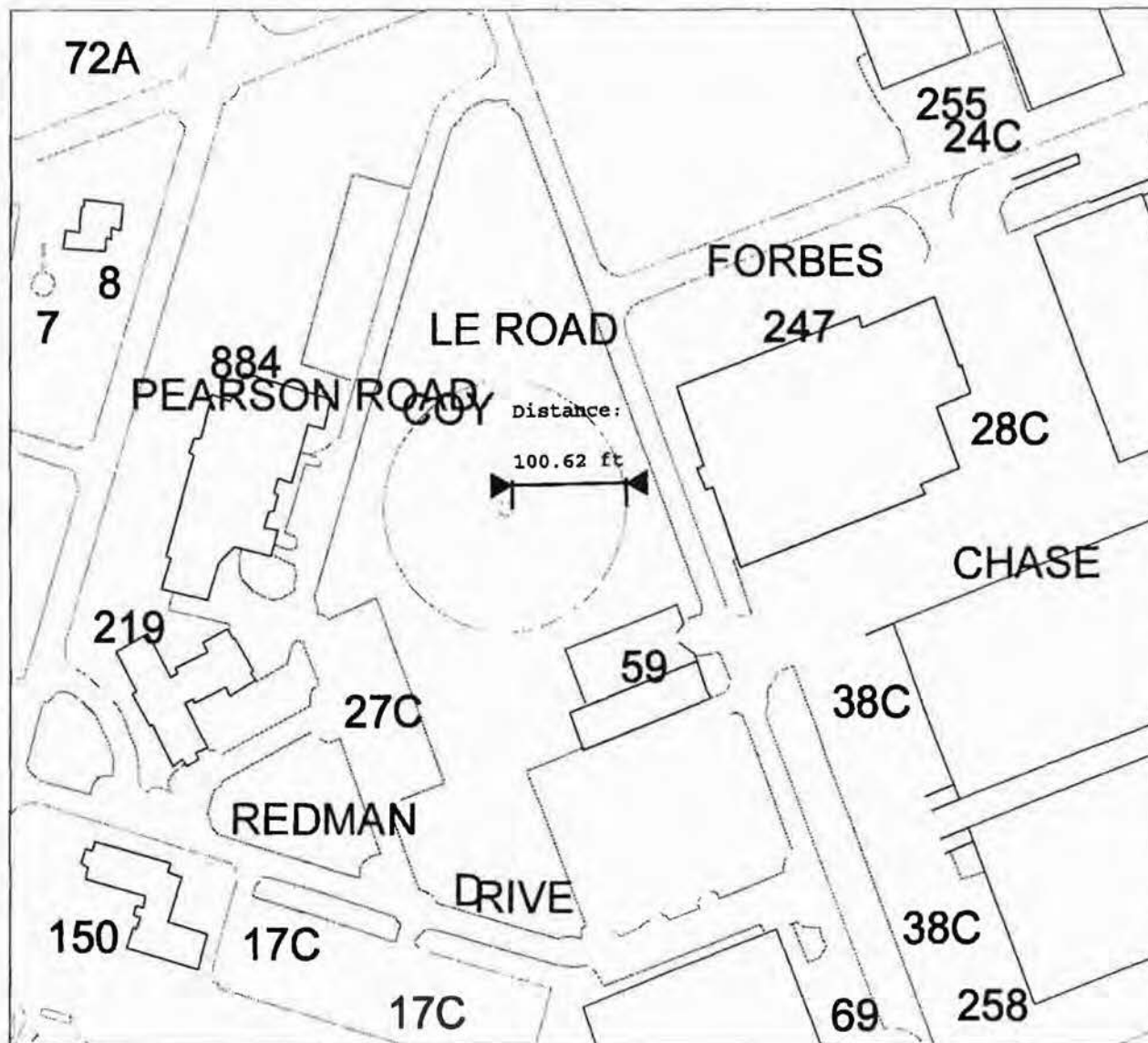
Eye Alt 2223 ft

Image 1 2005 Eagle Gate

Streaming 100.100

412 ft

Point 39 49 29.52 N 84 03 30.64 W elev 797 ft





Sightseeing

Select this folder and click on the 'Play' button below, to start the tour.

Operating Instruction



Civil Engineer

**TRAINING USE OF EOD TOOL KITS AND EXPLOSIVE
PROCEDURES OFF RANGE ON WRIGHT PATTERSON AFB**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

OPR: 88 ABW/CED (SSgt Andrews)
New Operating Instruction
Distribution: F

Certified by: 88 ABW/CE (Mr. Mattson)
Pages: 9

Purpose: This Operating Instruction (OI) outlines procedures to be used by all EOD personnel for safe and efficient explosive training operations on Wright-Patterson Air Force Base.

1. Safety Requirements:

1.1. Explosive Limits: Explosive actuated EOD tools and procedures may be used off-range for unit training, inspections, and evaluations. The following explosives and quantities are the maximum allowed per scenario.

- 1.1.1. Two .50 caliber impulse cartridges, HC/D 1.4C.
- 1.1.2. Two .50 caliber ball, M2 (projectiles removed), HC/D 1.4G.
- 1.1.3. Two electric or non-electric blasting caps, HC/D 1.1B.
- 1.1.4. Twenty feet of detonating cord, HC/D 1.1D.
- 1.1.5. Thirteen feet of safety fuse, HC/D 1.4S.
- 1.1.6. Two M60 fuse igniters, HC/D 1.4S.
- 1.1.7. Three AN-M14 thermite grenades, HC/D 1.3G.
- 1.1.8. Five 12 gauge shotgun shells (do not exceed size 7 ½ shot), HC/D 1.4S.
- 1.1.9. Shock Tube as needed, HC/D 1.4S.
- 1.1.10. Two initiator, shock tube, HC/D 1.4S.
- 1.1.11. Five stand-off disrupter blank cartridges

1.2. Personnel Limits:

- 1.2.1. Minimum of two EOD personnel (with at least one 5-level).
- 1.2.2. Maximum number of EOD personnel determined by EOD RSO/Team Chief.
- 1.2.3. Maximum of a 5:1 ratio of visitors to EOD technicians.

2. Locations of Explosive Operations.

2.1. All areas on WPAFB are considered off-range and may be used for training operations with 88 ABW/SEW approval and the appropriate coordination, e.g. Fire Dept, Security Forces, and affected agencies.

2.2. For routine training qualification or proficiency one site has been pre-established and coordinated with 88 ABW/SEW.

2.2.1. The west side of the airfield at the Old ABDR, now NASIC facility is approved for **all authorized off range tools**, IAW AFMAN 91-201 chap. 3.28.4 thru 3.28.5. A 500 ft. safety cordon is required for unrelated personnel (See Attachment 4).

2.3. Other locations can be used throughout WPAFB through coordination with the 88 ABW/SEW. This will require an on-site visit to determine feasibility. EOD personnel should plan accordingly.

2.4. During Wing Exercises and IG inspections, coordination will be conducted during EET planning meetings with all appropriate agencies (i.e. Weapon's Safety, Fire Department, Security Forces) in order to conduct Emergency Response Scenarios.

3. Minimum Equipment Requirements:

3.1. Two 2A:10BC fire extinguishers.

3.2. Six filled sand bags.

3.3. Demolition kit.

3.4. One radio and/or cellular phone capable of contacting emergency services.

3.5. One first aid kit.

3.6. Range book.

3.7. Tools and equipment as required by the applicable T.O.

4. Preparation for Training Operation:

4.1. Coordination with outside agencies is required for explosive training prior to starting the operation. Advise on the type of operation, location, and anticipated noise.

4.2. Notify the appropriate agencies as listed in Attachment 2.

4.3. Assemble the required equipment and vehicles.

4.4. Pull required T.O.s for the operation(s) being conducted.

4.5. Load the necessary equipment for the operation.

4.6. Ensure equipment and explosives are properly secured for transportation.

4.7. Ensure personnel are properly equipped.

4.8. Evaluate the training site for the following safe operating conditions:

Warning

Do not conduct explosive operations if the off-range site does not meet the minimum explosive operations requirements. Ensure an adequate clear area around the detonation site. Account for windows, explosive facilities, traffic, base boundaries, and other potential obstructions.

4.8.1. The area is free of combustible materials and excessive secondary frag such as rocks and other debris.

4.8.2. Ensure there is a safe egress route from the area in the event of an emergency.

4.9. Place explosives in a designated safe area for the training operation.

4.10 Verbally notify personnel working in the area of the operation, e.g. construction workers, etc.

4.11. Take steps to prevent inadvertent damage at off-range sites, such as landscaping, windows, and other personal property.

5. Safety Briefing:

5.1. Senior ranking EOD person will designate the safety supervisor for the operation.

5.2. Safety supervisor will conduct safety briefing using Attachment 3.

5.3. Assign a team chief for training scenario if other than the ranking person.

5.4. Designate explosive work-up crew (caps, cartridges, demo explosives, etc.).

6. Off-Range Procedures:**Warning**

Only plaster/disintegrating slugs will be utilized when using tools. Ensure projectile is removed when utilizing .50 cal ball ammo.

6.1. Prepare tools or explosives IAW applicable T.O.s, OIs or Team Chief directions.

6.2. Place a minimum of three filled sandbags in front and behind tools that project slugs, fluids or shot or otherwise present a projectile hazard.

6.3. If applicable, perform a firing wire continuity check at the detonation end of the wire.

Note

Safety Supervisor or Team Chief will control the firing device during setup.

Warning

EOD personnel are the only personnel authorized to be present during priming procedures.

6.4. Prime explosives immediately prior to initiation. Do not leave primed explosive charges or tools unattended or in the care of untrained personnel.

6.5. Ensure the area is clear and all personnel are under cover or have withdrawn to a designated safe area prior to initiating the explosives.

6.6. Maintain positive control over the initiation site when using non-electric firing procedures to prevent entry during wait times.

6.7. Establish cordons as necessary.

6.8. Initiate the charge when cleared to proceed by Team Chief.

6.9. After initiating charge, send one EOD member to check results with a second EOD person acting as a safety backup. Ensure no hazards remain before allowing non-essential personnel into the area.

7. Emergency Procedures:

7.1. Event of Misfire:

7.1.1. Notify the appropriate agencies as soon as possible.

7.1.2. When using only shock tube and a 12-gauge cartridge with the PAN a wait time is not required.

7.1.3. A 30-minute wait is mandatory for electrical misfires. However, corrective action may be attempted from the safe area.

7.1.4. For non-electric misfires wait 60 minutes plus burn time of safety fuse.

7.1.5. After wait time has passed, one EOD 5-Level, or team chief will approach detonation point while a second EOD person acts as safety backup.

7.1.6. Correct the deficiency IAW appropriate tech data and repeat procedures in paragraph 6.3 - 6.8 of this instruction.

7.2. Event of Fire:

Warning

Do not attempt to fight a fire if explosives are involved except to save a life. Evacuate all personnel from the area.

7.2.1. Evacuate the area and notify Fire Department.

7.2.2. Ensure the Fire Department is provided with the following information:

7.2.2.1. Location: include grid coordinates or building number if possible.

7.2.2.2. Amount and type of explosives involved.

7.2.2.3. Nature of fire; brush fire, vehicle fire, explosives, etc.

7.2.2.4. Extent or size of fire and area involved.

7.2.2.5. Time elapsed since fire involved munitions.

7.2.2.6. Number and type of injuries, if applicable.

7.2.2.7. Stand by to direct the Fire Department to the exact location.

7.3. Event of Mishap:

7.3.1. Mitigate hazards to make scene as safe as possible.

7.3.2. Provide first aid.

7.3.3. Contact Medical, Security Forces, Fire Department, Safety. (as necessary).

7.3.4. Secure the area until the appropriate agencies arrive.

7.3.5. Do not disturb incident site after all personnel have been safely evacuated.

8. Post Operations:

8.1. Police area for residue, scrap, trash, and explosives.

8.2. Properly dispose of residue or scrap.

8.3. Survey the training site for damage or other problems that need to be corrected.

8.4. Secure the site.

8.5. Secure equipment and unused explosives in designated vehicles.

8.6. Ensure site is returned to its original condition.

8.7. Notify affected personnel in attachment 2 when EOD operations are complete.

8.8. Complete and turn-in all expenditure form(s) to the munitions representative no later than 24 hours after training operation.

DENNIS R. MATTSON, CFM
Director
Civil Engineer Directorate

1st Ind, 88 ABW/SEW

TO: 88 ABW/CED

Approve/Disapprove

RANDY RUSSELL, GS-12
Chief, Weapons Safety

4 Attachments:

1. Reference List
2. Explosive Operation Notification Checklist
3. General Safety Briefing
4. Old ABDR Proficiency Area Map

ATTACHMENT 1

References:

AFMAN 91-201, Explosives Safety Standards

WPAFBI 91-201, Transport of Explosives

T.O. 11A-1-42, General Instructions for Disposal of Conventional Munitions

T.O. 11A-1-66, General Instructions Demolitions

Applicable 60-series technical order(s) covering the particular technique/procedure

ATTACHMENT 2

Explosive Operation Notification Checklist:

The Team Chief will ensure the appropriate agencies have been notified of explosive operations to include the start and end times. **MAKE SURE TO GET THE INITIALS OF THE PERSON NOTIFIED.**

LOCATION OF OPERATION: _____
 DATE OF OPERATION: _____
 NUMBER OF DETONATIONS: _____
 START TIME: _____
 STOP TIME: _____
 INDIVIDUAL MAKING CALLS: _____
 DATE CALLS WERE MADE: _____

<u>ORGANIZATION</u>	<u>PHONE</u>	<u>INITIALS</u>
SECURITY FORCES	7-6516	_____
BASE HOSPITAL ER	7-3203	_____
FIRE DEPARTMENT	7-3033	_____
PUBLIC AFFAIRS	2-3252	_____
BASE OPERATIONS	7-2131	_____
WPAFB COMMAND POST	7-6314	_____
WEAPONS SAFETY	4-0487	_____

ATTACHMENT 3

General Safety Briefing:

Safety supervisor will be _____ (name/rank).

Designate a safe area for personnel to meet prior to initiation or in the event of a mishap/emergency.

Designate a smoking area, at least 50 feet from all explosives as needed. Smoking will only be permitted in this area.

Ensure all personnel remove all rings watches and jewelry before conducting operations.

Brief any 60-series safety precautions pertaining to the operation.

Observe Electro Explosive Devices (EEDs) and Electro magnetic Radiation (EMR) precaution when handling electrically primed devices. No cell phone or radio transmissions within 10 feet of packaged EEDs or within 25 feet of unpackaged EEDs.

Personnel must ground themselves prior to handling EED's or making electrical connections.

Do not drop, throw or roughly handle explosives.

All explosives operations will cease if an electrical storm is within 5 nautical miles (lightning visible) or in other severe weather conditions. Operations will not resume until conditions have cleared.

A minimum of three filled sandbags must be placed in front of and behind any tool that presents a projectile hazard.

The projectile will be removed from the .50 caliber cartridge prior to use (if applicable).

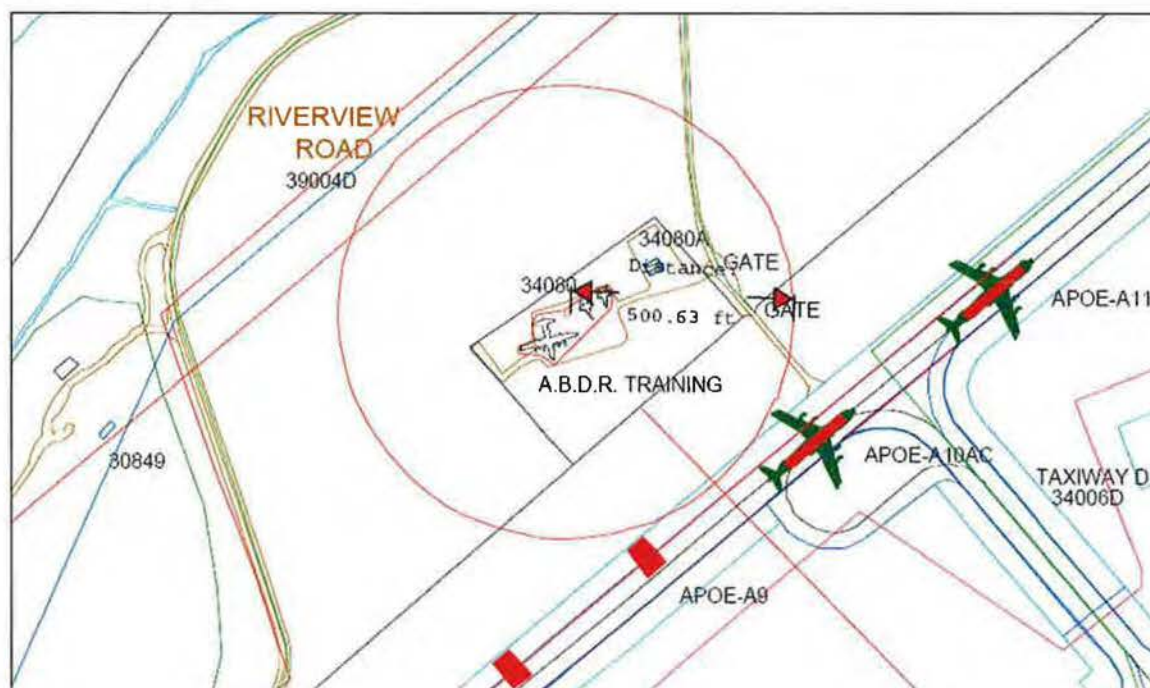
Only plaster slugs will be used at off-range locations.

Tools will only be fired at inert, non-hazardous material.

Do not use 00 buckshot.

ATTACHMENT 4

ASHS 500 ft Radius
in Old ABDR AREA.pd



APPENDIX F

ADDITIONAL USES

DATE PREPARED: 7 Jan 2008

AGENCY- 88th SECURITY FORCES SQUADRON (88 SFS)

SECTION- MILITARY WORKING DOG (MWD)

LESSON TITLE AND DATE- 88 SFS MILITARY WORKING DOG SPECIFIC EXPLOSIVES SAFETY TRAINING; 7 Jan 2007

LESSON DURATION- 0.5 HOURS

1. **LESSON OBJECTIVES:** Once given the MWD Explosives Safety Training, the student will be able to:
 - a. Identify the explosives safety training requirement.
 - b. Identify and implement MWD specific weapons safety program elements.
 - c. Ensure personnel understand MWD specific explosives safety requirements
2. **LESSON OVERVIEW:** This course is designed to augment the 88 SFS *Basic Explosives Safety Training*. Together, these lesson plans will provide initial and 15-month recurring explosives safety training for personnel assigned to the 88 SFS MWD Section. This 88 SFS *Military Working Dog Specific Explosives Safety Training* presented with the 88 SFS *Basic Explosives Safety Training* will ensure personnel receive the general and MWD specific explosives safety information required to safely store, handle, transport and employ explosives in the course of performing MWD explosive duties.
3. **INSTRUCTIONAL METHOD:** Informal Lecture with a PowerPoint Presentation
4. **REFERENCES:** AFMAN 91-201, AFI 91-202, 88 SFSOI 31-202
5. **VISUALS:** PowerPoint Presentation
6. **HANDOUTS:** PowerPoint Presentation with Notes Page

PREPARED BY: TSgt David Moore, 88 SFS Additional Duty Weapons Safety Manager

APPROVED BY: Mr. Randy Russell, 88 ABW Weapons Safety Manager

RUSSELL.RANDY.
R.1091466780

Digitally signed by RUSSELL.RANDY R.1091466780
DN: cn=RUSSELL.RANDY R.1091466780, o=US, ou=US
Government, ou=DoD, PKI, URUF
Reason: I am approving this document
Date: 2008.01.10 08:39:27 -0500

REVIEW/UPDATE DUE- Sep 2008 Annual Inspection Review

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BY THE ORDER OF THE COMMANDER
88th Security Forces Squadron (SFS)
Wright Patterson Air Force Base, OH 45433

88 SFSOI 31-202
15 January 2008



Security

**MILITARY WORKING DOG (MWD) OPERATIONS, EMPLOYMENT AND
EXPLOSIVE SAFETY**

COMPLIANCE WITH THIS INSTRUCTION IS MANDATORY

OPR: 88 SFS/S5SA (SSgt Richard Dostal)

Certified by: 88 SFS/CC
(Lt Col Michael D. Reiner)

Supersedes: SFOI 31-14, 15 August 2006

Pages: 26

Distribution: X

This Operating Instruction (OI) establishes policies and procedures for the operational use of Military Working Dog teams assigned to the 88th Security Forces and provide specific guidance for transportation, training, handling, and storing the canine scent kit on Wright-Patterson AFB. This instruction applies to all personnel assigned or attached to the 88th Security Forces Squadron. **NOTICE:** This publication is available digitally on the Installation Security Community of Practice (<https://afkm.wpafb.af.mil/ASPs/docman/DOCMain.asp?Tab=0&FolderID=OO-SF-MC-45-2&Filter=OO-SF-MC-45>), and the 'Community' drive read file. If you lack access, please contact Plans and Programs/S5SA.

SUMMARY OF REVISIONS

A "★" indicates revision from the previous edition. Changes include: documentation of MWD food consumption, personnel limitations during explosives training, emergency actions, and inclusion of self inspection checklist.

References

AFMAN 31-219
AFMAN 31-229
AFMAN 91-201
AFI 31-202
T.O. 11A20-16-7
T.O. 11A-1-60

FOR OFFICIAL USE ONLY

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Attachments:

★ Attachment 1 – Military Working Dog Weapons Safety Checklist

Attachment 2 – Explosive Safety Checklist for Explosive Detector Dog (EDD) Training

Attachment 3 – Memorandum of Understanding/Release of Liability

Chapter 1

Responsibilities

1.1. Kennel Master.

1.1.1. Ensure all Military Working Dog records are done and turned in no later than (NLT), the fifth of each month. Make sure quarterly reports are turned in and routed through S3 for review before they are sent to HQ for final signatures. Also, ensure the timely and accurate completion and maintenance of all forms associated with the MWD program.

1.1.2. Make sure validation testing and certifications are accomplished for each MWD team. Maintain kennels and ensure all MWDs are properly cared for, and all handlers are knowledgeable of their responsibilities. Conduct validations on dog teams annually and prior to base certifications.

1.1.3. Monthly drug weighs need to be accomplished prior to the end of each month with a disinterested E-5 or higher. The Kennel Master is the primary drug custodian and the Trainer is the alternate. All forms dealing with the drug account are stored with the drug aids in the armory. Check the drug sign out log and all drug training aids at least once a month for any discrepancies. Forms dealing with the explosive account are kept at the kennels and need to be updated accordingly.

1.1.4. Ensure all safety guidelines are being followed and met by all handlers and personnel in the kennels. Conduct daily safety checks of the kennels and the surrounding areas, report any deficiencies.

1.2. MWD Trainer.

1.2.1. Make sure all of the handlers Optimum Training Requirements (OTRs), are met and completed prior to the end of each month. Conduct training with MWD teams to keep them proficient and up to date with the new training methods from Lackland AFB, TX. Train all handlers on explosive safety and proper handling of the explosive scent kit.

1.2.2. Ensure all dog records are turned into you NLT the third of each month. When dog records are turned in, check the AF Form 321 and AF Form 323 prior to the Kennel Master for corrections. Give back to the appropriate handler to fix the corrections then, forward to the Kennel Master.

1.2.3. Ensure all safety guidelines are being followed and met by all handlers and personnel in the kennels. Conduct daily safety checks in the kennels and surrounding areas, report any deficiencies to the Kennel Master. Maintain kennels and ensure all MWD's are properly cared for, and all handlers are knowledgeable of his or her responsibilities.

1.2.4. In the absence of the Kennel Master conduct validations and any administrative paper work that needs to be completed.

1.3. MWD Handler. All handlers must have an official passport or paperwork submitted with the MPF passport section. Handlers should also have at least a secret clearance and a government credit card for travel.

1.3.1. Ensure the Kennel Master is notified in a timely manner of any problems encountered concerning the kennels, dogs, and/or handlers.

1.3.2. During non-duty hours, the on-duty handlers are responsible for checking the kennel facility and each MWD at least every four hours, during eight or twelve hour shifts. If an handler is not on duty/available during non-duty hours, a Security Forces Patrolman will complete this check. Checks are for the primary health and welfare of each dog. Ensure there is no blood, vomit, or excessive diarrhea in each dogs kennel and each dog is breathing normally. If the dog seems lethargic, foaming at the mouth, or appears to have an extended left side/bloated stomach, call the Kennel Master and flight handler ASAP. Furthermore, ensure there is an ample amount of water in each of the dog's water buckets.

1.3.3. Comply with the kennel facility one-way system. Enter with your dog through the front door, and kennel your dog immediately. Exit with your dog through the back door.

1.3.4. Maintain positive control of your dog at all times, especially in the kennel area and when in close proximity of personnel. Keep a safe distance between MWD teams while in training area. A standard of 10' – 15' between teams will be maintained at all times. This may be reduced drastically when conducting advanced obedience; nevertheless you must always maintain positive control on your MWD.

1.3.5. You will be the only source of petting and verbal praise for your assigned dog. Other personnel are not authorized to be in close proximity, pet, or take control of your dog unless the person is a qualified handler or veterinarian.

1.3.6. If you encounter a dog in the kennel without any type of control and no handler nearby, warn others by calling out, "loose dog!" Cease all movement and have a qualified dog handler gain control of the dog. Should no handler be available, exit the area, call either the on-call bomb dog handler or the on-call drug dog handler for help.

1.3.7. Remove choke chains while the dog is in kennel run or shipping crate.

1.3.8. Each duty day, inspect your assigned dog kennel, looking for hazards to the dogs or personnel. By the end of every week you will G.I. your respective dog's kennel. Any unassigned MWD, the trainer and/or the Kennel Master will conduct the cleaning.

1.3.9. At least once per shift, fill water buckets with cold water from the water hose, ensuring each MWD has an ample amount of water. Weather and training will always dictate how often the MWD's bucket will be filled.

1.3.10. Use the water hose to spray each dog kennel containing urine or stool. Ensure the waste is sprayed to the rear trough then, sprayed down into the sewer drain. **DO NOT SPRAY THE DOGS!!!**. Ensure the rear waste trough water hoses are hung on the hose hangers so they're off the floor.

1.3.11. All dogs will be fed twice per day according to the feeding chart in the food storage room. All dogs will be fed by certified handlers only. Preferable feeding times are approximately 0300 and 1500 hours; however, handler schedules will dictate the actual feeding times, not to be closer than six hours between feedings.

1.3.12. Do not leave the feed pans in the dogs kennel for more than 30 minutes. Pick up and wash the feed pans with soap, rinse, and allow the pans to air dry. Keep the sink area clean and food in the rodent proof container. Empty trash into the dumpster, daily.

1.3.13. Annotate the feed chart located on the wall in the kitchen area with amount of food each dog consumed.

★1.3.13.1. The following is used to annotate the amount of food the dog consumes: A=100%, B=75%, C=50%, D=25% and E=No food consumed.

1.3.14. Medicate dogs as required. Heart Guard and Front Line will be administered by certified handlers to all dogs on the fifteenth (15) of each month.

1.3.14.1. Annotate the medication chart when complete located on the feed chart.

1.3.15. Groom and inspect your dog daily.

1.3.16. Only allow your dog off leash when the dog is released to bite and hold a suspect, conducting a search, obedience, or other type of training activity where safety of personnel is first considered. Detector dogs will NEVER be used to search personnel.

1.3.17. Before entering buildings or walking around corners with your dog, you should sound off/call out, "Dog coming through, around or by", whichever applies.

1.3.18. You may leave your dog in a vehicle when the weather is cool, less than 74 degrees. If temperatures are over 75 degrees, dogs may be left in the vehicle with AC running and all four windows left slightly open. In these cases the dog will need to be checked on every twenty minutes. When in doubt as to whether you may or may not leave the dog, contact the Kennel Master for clarification.

1.3.19. Ensure your dog is secured in the vehicles K-9 insert, doors locked with adequate ventilation. The permanently assigned vehicles for K-9 will be marked with "Caution Military Working Dog" on each side, and temporary transportation will be marked the same on each side with temporary or removable signs.

1.3.20. Attempt to keep your vehicle in sight. Should this not occur, you must conduct periodic checks of your dog's health and welfare, not to exceed 20 minutes between each check.

1.3.21. Staking out your dog. Use a stake out chain, collar, and choke chain, attached to a non-moveable object in the shade with ample amount of water, only as a last resort. Ensure your dog cannot injure itself or others. Your dog will not be left unattended while staked out. Do not use the leash and choke chain combination to secure the dog to any object.

1.3.22. Should circumstances warrant leaving your dog unattended in a temporary kennel or shipping crate, you will check the dog frequently and ensure the dog has ample amounts of water. Assign an observer to watch your dog so they may alert you, should your dog begin to show signs of distress. If no one is available, ensure you do not exceed 20 minutes between each check. The dog must be comfortable, secured and protected from extreme heat, cold and other factors. If extreme temperatures exist, increase the checks of the dog to once every 5 – 15 minutes, not to exceed 15 minutes. Ensure the dog cannot inadvertently get loose, injure itself, others or property.

1.3.23. Do not coordinate the shipment of your dog through Guam, the United Kingdom, or other countries with quarantine laws. Check with TMO and confirm with other civilian travel agencies to ensure no quarantines are in effect where you are traveling.

1.3.24. Mark your dog shipping crate with, "Danger, Military Working Dog", your dogs name and brand number. You will also tape a copy of the dog's health certificate to the crate. Ensure the dog's crate has a small shipping food and water container and instructions annotated.

1.3.25. Prior to a drug dog team searching postal facilities, coordination with SJA is required to establish probable cause for the search.

1.3.26. Update your dog records at the end of each duty day. AF Form 321, *MWD Training and Utilization Record* and AF Form 323, *MWD Training and Utilization for Drug and Explosive Detector Dogs*. Complete the updates on the Microsoft Excel computer program, in the kennel office.

1.3.27. Print and sign dog records at the end of each month, place the records in the kennel office in-box. Records are due for trainer review and Kennel Master Signature, no later than the fifth day of each following month.

1.3.28. Should your dog display signs of illness or need immediate emergency health care, contact the base veterinarian or vet technician during normal duty hours; DSN: 787-0569. If after duty hours, contact pager DMATS, 168-852; commercial, 257-0068 x 852. Receive emergency instructions from the vet personnel to transport your dog to the veterinarian office or emergency treatment area. In any case, notify the Kennel Master or Military Working Dog trainer, the SFCC as well to notify the chain of command.

1.3.28.1. Should no contact be made with base veterinary personnel, contact the Dayton Emergency Veterinarian Clinic, (937) 293-2714, using agreement WPAFVS SOP 300-04. The clinic is located south on I-75, exit 50A, right onto Dryden Road, first left onto Springboro West. The clinic is the first building on the left, number 2714.

1.3.28.2. Before entering the veterinary facility, muzzle your dog, gain permission from the veterinary staff, and enter through the door reserved for MWD use.

Chapter 2

Flight MWD Utilization

2.1. General. Flight supervisory personnel will be knowledgeable on proper utilization and capabilities of each dog team assigned to their flight. Questions or requests for specific guidance not outlined in this OI should be obtained from the Kennel Master; however, should information be supplied by the handler, or other sources, ensure the Kennel Master is notified for continuity. If any problems arise, immediately notify the Kennel Master.

2.1.2. An MWD team's primary mission is detection and deterrence. This should be achieved by the ride awhile, walk awhile method over the entire installation. Giving the team maximum coverage in a limitless patrol zone increases visibility and vigilance in all areas.

2.1.3. It is not recommended to post a dog team on a static post or gate. Static posts drastically minimize and degrade team capabilities. When manning necessitates and as a last resort, the dog team may be posted on static post. The dog team should be left there no longer than four combined hours per shift, the remainder of the shift the dog team should be utilized on mobile patrol for maximum detection and deterrence. Dog teams can be used to relieve static post when no other means are available.

2.1.4. All dog handlers will have their assigned dog the entire duty day, unless the handler or dog is ill, on quarters, or on restricted duty.

2.1.5. Handlers should conduct at least one hour of common area checks during an eight hour shift, and two hours during 12 hour shifts throughout the installation. Ensure these searches are listed in the blotters.

2.1.6. MWD teams will use pre-equipped/assigned (with K-9 cages and MWD markings) vehicles. When these vehicles are not available, assign the dog team a law enforcement sedan, six pack truck or other passenger vehicle, *with rear seat*, for patrol use. The dog may be on or off leash in the rear seat, on a stable platform, only.

2.1.7. Assigning the dog team a cargo van or three-pack pickup truck with portable kennel in the truck bed is not authorized *for mobile patrol*. However as a last resort a metro van with air conditioning, rear heater and ventilation can be used.

2.1.8. MWD handlers, assigned K-9 vehicles especially a vehicle equipped with the K-9 insert, kennel facility, kennel crates, training area or any other K-9 equipment will not be used to confine, transport, collocate, or retrieve pets, mascots, lost, or stray animals.

2.1.9. If it is necessary to use a vehicle that may have had a stray animal or pet in the interior, the handler must vacuum the interior thoroughly, to include under the seats; wipe down the windows with window cleaner and clean the upholstery with an upholstery cleaner, wiping the

fabric with a clean towel. If feces, urine, blood, or other fluids are evident, the vehicle should not be used. Seek other transportation unless the handler has time to sufficiently and thoroughly clean the interior.

2.1.10. Vehicles assigned for K-9 use, not utilized during a shift, should remain parked on stand-by for emergency K-9 use and response. Authorized release for other than MWD will come from S3S, Operations Superintendent or Officer.

2.1.11. Handlers requiring immediate emergency transportation for their MWD when none is available may be directed to transport the MWD in a privately owned vehicle when authorized by the Chief of Security Forces.

2.2. Training Applications.

2.2.1. Handlers will be allotted at least one hour, preferably toward the end of each shift for record updates, kennel sanitation, fresh water exchange, medicating, and feeding dogs. NOTE: Handler may perform duties after shift if there are exigent or emergency circumstances.

2.2.2. MWD teams should be allotted four hours per cycle, at minimum, to conduct all phases of required dog training. This includes all phase of controlled aggression and detection.

2.2.3. Flight supervisors of dog handlers should check their troops dog records at the end of the month, prior to the handler turning them into the Trainer and Kennel Master for disposition.

2.2.4. Flight Sergeants and supervisors will confer with the Kennel Master concerning handler activities which could affect EPR ratings and/or decorations.

2.2.5. Drug Detector Dog Training. Safety and control of drug training aids is of utmost importance. The CSF allows the handlers, in writing, to sign out drugs for Drug Detector Dog training. They are the only personnel who can possess or use them for training. Return training aids the same duty tour they were signed out unless the CSF, operations officer or other competent authority grant special authorization in advance. The training required for you is described as primarily security and accountability. Don't lose track of where you place the drug training aid. Positively control the aids at all times.

2.2.5.1. Handlers may take an aid TDY with them; however, the authorization to possess the drug aid, specific type and quantity and the training aid accountability seal number(s) will be entered on your travel orders. If you are the issuer and receiver of drug training aids, in the column titled, issued by, you will write in your name and print and sign in the column titled, issued to.

2.2.5.2. To sign out drug aids, list each aid and type in the drug record log and leave it in the drug safe. If more than one aid is used, you may draw a slanted line for date, times, issuer's name, issued to, returned by and witness name, rather than filling out each line with the same information. Use blue or black ink only, no pencil/erasable ink entries. Armory personnel may

witness returns. Ensure you instruct them in what they are witnessing and count each of the containers with them.

2.2.5.3. In the event an aid is missing, immediately search the area and the area you conducted training. If you cannot recover the aid, notify the Kennel Master/Alternate Drug Custodian, begin immediate up channeling of the loss and ensure you prepare a statement via AF Form 1168.

2.2.5.4. If you or your dog damage an aid while in your possession, loosen or remove the seal, drop the aid in any type of liquid, or other substance that leaves residue on the container or bends the container, immediately secure the aid in the safe, separately from the other aids in a plastic bag. Notify the Kennel Master/Alternate Drug Custodian, up channel and prepare a statement.

2.2.5.5. In the ledger, abbreviate the type of drug aids, using: Marijuana, MJ; Hashish, HA; Heroin, HE; Cocaine, CO; Meth-amphetamine ME; MDMA, MD.

2.2.6. Handlers are authorized to draw two M-15 revolvers and their assigned M-4 on an AF Form 1297, *Temporary Issue Hand Receipt*, with no ammunition. Weapons are drawn for the purpose of conducting blank gunfire recognition for Military Working Dogs. Weapons and blank ammunition must be handled as directed in AFMAN 31-229, *USAF WEAPONS HANDLING MANUAL*.

2.2.6.1. Only authorized blank ammunition supplied by S3D will be used. Prior to expenditure firing, 100-percent of all blank cartridges received must be inspected and certified by the handler and trainer to ensure no projectiles are in the blank ammunition and that they are serviceable, not damaged.

2.2.6.2. When retrieving the weapon from the armorer, ensure the weapon is clear and safe following procedures found in AFMAN 31-229. Proceed directly to the clearing barrel. When directed, approach the clearing barrel only when directed by a competent clearing barrel official. **AT NO TIME WILL THE WEAPON BE LOADED AT THE CLEARING BARREL!**

2.2.6.3. When the weapon is deemed safe, place the weapon in a holster or in a firearm case.

2.2.6.4. Gunfire training will be conducted outdoors ONLY. If for some reason a handler needs to conduct gunfire training off-base, ensure approval is received by the CSF, Operations Superintendent and Base Safety. There will be no gunfire training conducted within any facility on or off-base. Notify the Fire Department, Security Forces Control Center (SFCC), and 88 ABW Weapons Safety personnel before conducting training; include the exact location of training, and time training is initiated/terminated.

2.2.6.5. There will be a minimum distance of 50 ft maintained between each Dog Team and/or handler during gunfire training.

2.2.6.6. There are no personnel limits during training.

2.2.6.7. No more than 300 blank cartridges will be taken to the training location.

2.2.6.8. The weapon will be treated as loaded at all times, never directly point a weapon at a dog or personnel.

2.2.6.9. Hearing protection and safety glasses must be made available to all personnel involved in gunfire training operations.

2.2.6.10. The weapons will be unloaded and cleared by the handler and trainer at the training location using procedures found in AFMAN 31-229. The weapon will be cleaned immediately after gunfire and returned to the armory.

2.2.6.11. Expended brass must be collected and turned-in for inspection, certification and disposition in accordance with T.O. 11A-1-60, *GENERAL INSTRUCTIONS INSPECTION OF REUSABLE MUNITIONS CONTAINERS AND SCRAP MATERIAL GENERATED FROM ITEMS EXPOSED TO, OR CONTAINING EXPLOSIVES* when training is complete.

2.2.6.12. Place miss-fired/unserviceable blank cartridges in a metal ammo can marked "Unserviceable Cartridges" and segregate from serviceable and expended items.

2.2.6.13. Make arrangements to turn-in unserviceable cartridges to the Munitions Storage Area Inspection Section for inspection and disposition.

2.2.7. Emergency Actions.

2.2.7.1. Immediately report all accidents or incidents to your supervisor or senior member of your team.

2.2.7.2. A live round of ammunition mixed in with blank ammunition is an emergency situation. If found, stop all training, notify your supervision and the MASO, immediately. Training will not continue until authorized personnel can determine verification of ammunition.

2.2.7.3. The Kennel Master or Trainer, will have a cellular telephone or radio to enable him/her to contact emergency personnel to include the Security Forces Control Center in the event of a mishap or abnormal condition.

2.2.7.4. The Kennel Master or Trainer will obtain a list of emergency numbers to contact from the training area in the event of a mishap or abnormal condition. Appointed individual will ensure the Security Forces Chief, Security Police Desk Sergeant, MASO, Base Medical Personnel, Fire Department and Weapons Safety offices are notified of any mishaps and complete any necessary paperwork.

2.2.7.5. In the event a round fails to fire, take the appropriate immediate action detailed in the weapon's operator manual.

2.2.8. Conduct proficiency training using your assigned dog's optimum training requirements (OTR). The OTR specific to assigned dog is located respective training record.

Chapter 3

Safety Issues

3.1. General. Anyone entering the kennel facility will refrain from running, horseplay, sudden or threatening movements, yelling, screaming or any loud and obnoxious gestures.

3.1.2. No one, other than qualified handlers assigned to the kennels, will open a dog cage door or remove the security clasp for any reason. Ensure the kennel gates, cages, and exterior doors are firmly closed and secured on entry and exit.

3.1.3. Every Security Forces Patrolman that has to check on the dogs during a shift which there are no handlers working will be shown how to complete these checks by the Kennel Master or Trainer.

3.1.3.1. Tasks will include how to properly spray out the runs, check on the primary health and welfare of each dog. Ensure there is no blood, vomit or excessive diarrhea in each dogs kennel and each dog is breathing normally. Each check will be done at least every four hours and times are annotated on a check list in the kennels. Problems with any dog the Kennel Master or Trainer will be contacted immediately.

Chapter 4

Releasing an MWD and Use of Force

4.1. General. Release your dog to bite and hold, IAW the following instructions: AFI 31-207, *Arming and Use of Force by Air Force Personnel*, chapter 1.3. through 1.5.; and AFI 31-202, *Military Working Dog Program*, chapter 3.2.

4.1.2. Releasing an MWD to bite and hold is considered less than lethal force. When your dog is used to challenge or approach a suspect, give a warning such as: "I have a Military Working Dog trained to bite with or without command, do you understand?"

4.1.3. Before releasing your dog for the bite and hold, when reasonable, give the warning order "Halt or I'll release my dog" three times.

4.1.4. Warn bystanders to cease all movement. When MWD is released follow your dog as close as possible without jeopardizing the safety of bystanders.

4.1.5. Should large crowds of people or children be nearby, you WILL NOT release your dog. Instead, follow the subject with your dog on leash until clear of all people and other distractions. Maintain the subject in your sight prior to releasing your dog on the subject for bite and hold.

4.1.6. Each situation will dictate your personal discretion on the proper use of your dog; however, you WILL NOT release your dog on a subject wielding a deadly weapon which could be used in a lethal attack on your dog. Remember your Use of Force continuum!

4.1.7. Building searches should be conducted off leash; however, depending on the situation, the incident commander may determine if the dog should work on leash.

4.2. Use of Force. During all levels of the UFM you should have wear your second chance vests. On rare circumstances you can utilize the dogs vest.

4.2.1. During level one of the Use of Force Module (UFM), have your dog present during cooperative or verbal control of the compliant subject(s).

4.2.2. During level two of the UFM, have your dog present during contact control of the passive resistant subject(s).

4.2.3. During level three of the UFM, resistant active subject, you should consider deployment of your primary minimum force weapon. Release your dog to bite and hold on an active resistant subject(s).

4.2.4. During level four of the UFM, assaultive subject, you should consider deployment of your primary minimum force weapon if possible to defend yourself. If possible, release your dog to bite and hold on an assaultive subject(s) for defense against attack.

4.2.5. During level five of the UFM, you should recall your dog, take cover and use appropriate deadly force measures to stop the lethal attack where serious bodily harm or death would occur.

Chapter 5

Support to Civilian Law Enforcement Agencies (CLEA)

5.1. General. When Explosive Detector and/or Narcotic Detector Dogs are tasked to assist CLEA, whoever coordinates the action with the agency will inform officials of the following requirements:

5.1.1. The handler and dog must be used together and have exclusive control over the detection support effort and complete access to the entire search area.

5.1.2. The handler will perform the sole task of working their dog and will not take part in any other activity.

5.1.3. Only the detection capabilities of the dog will be used. When off-base, MWD teams will not track persons, seize evidence, search people/persons/buildings or areas for personnel, bite and hold or assist in apprehending, arresting or detaining persons. NOTE: Use of Force still applies in an off base environment.

5.1.4. A representative of the requesting agency or civil jurisdiction must escort the team at all times while searching.

5.1.5. Should the dog make a positive response, the handler will advise the agency representative and depart the affected area immediately.

5.1.6. Inform the CLEA, DoD will not accept responsibility for damages resulting from the use of the dog team.

5.1.7. Handlers will not seize or retrieve evidence, assist in setting up or maintaining chain of custody or engage in any other activity considered a law enforcement function.

5.1.8. After an explosives search, handlers will not declare an area safe for reentry. Handlers will report to the incident commander with information about the dog's lack of response on explosive odors the dog is trained on. The on-scene commander must determine if the area is clear/safe.

5.1.9. While working dogs for CLEA, should a confrontation with personnel or any damage occur, incurred by the team, the on-site representative must immediately be contacted.

5.1.10. The handler may, if absolutely necessary, testify in civil court.

5.1.10.1. Testimony will be limited to explaining the training received, past success rate of the dog, handler involvement in the employment and results.

5.1.11. If there is NOT an existing Memorandum of Agreement/Understanding with the requesting CLEA, complete Attachment 3, Memorandum of Agreement/Release of Liability.

5.2. Explosive Detector Dog Support (EDD).

5.2.1. **Non-emergency** bomb dog support to CLEA will be processed through the Air Force Security Forces Agency (AFSFA), to the office of the Secretary of Defense, Executive Secretariat (OSD/ES), before committing resources. The requesting CLEA will explain to the OSD/ES, the reason for the support and how the tasked unit will be reimbursed. AFSFA will contact the closest DoD unit for the support, if their mission allows it.

5.2.1. Should our unit accept the task, prior to the use of our EDD team, a memorandum of understanding, release and reimbursable agreement will be completed.

5.2.2. **Emergency** bomb dog support to CLEA is not reimbursable. The installation commander or designee must approve CLEA requests for **emergency** EDD support, with SJA coordination. Initially brief S3O for coordination before seeking SJA and installation commander or designee approval. ADVISE S3O on location, distance, scope of support, and the ability to maintain coverage for the installation.

5.2.3. Military assets, including the use of the EDD team for an off-base/non-base connected emergency, must be used as a last resort. Dog handler, a spotter, and the Kennel Master or Trainer will respond. When an EDD team responds to a bomb threat on or off base, use the following guidance for safety of the team when there is the slightest evidence of an explosive device. Evacuate the area first, depending on the higher order of officials, the type threat received or local policy. The incident commander should detail a limited number of personnel from the affected facility(s) to conduct an interior search of all areas looking for items which appear unusual or out of place. Report any findings to EOD. Do not move or disturb anything unless you can positively rule it out as an explosive device. If lights or other electrical or mechanical appliances are on, leave them on. If lights are off, leave them off until the search is completed and visually survey the entire area before initiating a systematic search. Note areas where the dog shows significant interest, but failed to give a response so EOD can conduct follow-up searches. Do not touch or retrieve suspected objects or allow the dog to scratch, paw, or bite at the object. When the dog responds during an actual search, immediately mark the area and notify EOD personnel. Do not move, open, or tamper with any objects. If EOD personnel are not immediately available evacuate the area of all personnel and establish a cordon until appropriate personnel arrive.

5.2.4. If the dog responds to a non-explosive item, provide the 341st TRS (Lackland Dog Training Center) with all the available data, including sample material (if possible).

5.2.4.1. Evaluate each EDD assigned and record their reactions. Inform the appropriate MAJCOM and HQ AFSPA/SPLE; the 341 TRS will conduct tests and provide the results to the MAJCOM, through HQ AFSPA/SPLE.

5.2.5. An EDD team may conduct a search of areas affected by a bomb threat after a cordon is established, an evacuation of all unnecessary personnel has been completed.

5.2.6. Improvised explosive devices, commonly called suspicious packages, whether located by individuals or by the EDD team, will not be cleared, checked, searched, touched, moved, opened or inspected, except by explosive ordinance disposal (EOD) personnel.

5.2.6.1. EDD teams may assist EOD with searches for secondary devices, away from the affected area of the suspected explosive device.

5.2.7. EDD teams may have radios, pagers and cell phones on their person. These items may be monitored for one-way communication to the team, they will not be keyed or turned on/off by the handler, within the affected cordon.

5.2.8. Should a detonation time be given, ensure EDD teams evacuate 30 minutes prior to the known detonation time.

5.2.8.1. EDD teams will not reenter the affected area until 30 minutes past the detonation time. Times may vary according to different situation, but time should not replace safety.

Chapter 6

Explosive Canine Scent Kit

6.1. General. Flame producing materials are not compatible with the canine scent kit and will not be used within 100 feet of the training area.

6.1.1. All other explosives not associated with the canine scent kit will not be used in conjunction with the canine scent kit in any training area.

6.2. Authorization. Personnel identified on the AF Form 68 are authorized access to hazard class/division (HC/D) 1.1 explosive training aids. These aids are transported/handled by qualified personnel to provide realistic and effective training for EDD teams.

6.3. Explosive Limits. Seven (7) net explosive weight pounds of explosive is the maximum allowed per training problem. Different explosive types must be hidden at least 10 feet apart. Chlorates are not included in the total weight limitation.

6.4. Personnel Limits. Minimum amount of personnel associated with EDD training, are authorized in the canine scent kit training area.

★6.4.1. Personnel Limits will not exceed the following: Supervisor/Trainer: (2); Worker(s): (2); Casuals: (1), and MWD Team (1)

6.5. Validations will be conducted by Kennel Master and Trainer, Base Certification will be witnessed by CSF. Nonessential personnel will be evacuated beyond 100 feet of the explosive training location.

6.6. Explosive Safety Requirements. Personnel working with explosives will not wear rings, watches or jewelry.

6.6.1. When handling nitroglycerin type explosive, do not hide the sticks where they may accidentally be dropped from more than (6) six feet high. Protective gloves must be worn.

6.6.2. Two (Class 2A:10BC approved) fire extinguishers will be immediately available.

6.6.3. The appropriate fire symbol number one will be posted on avenues of approach to the area, to include: "Danger -- Explosive Detector Dog Training in Progress -- Keep Out" and "No Smoking" placards will be placed on all sides of the area.

6.6.4. Flame producing devices, blasting caps, explosive detonators, or any initiators for explosives will not be used for any type of EDD training.

6.6.5. Explosives will not be hidden in vehicle engines or gas tanks, or near electrical, spark/heat producing or flammable systems or instruments.

6.7. Step-By-Step Task Procedures.

6.7.1. Notify the Fire Department, Security Forces Control Center (SFCC), and 88 ABW Weapons Safety personnel.

6.7.1.1. Include the exact location of training, type/amount of explosives, and times initiated/terminated.

6.7.2. Contact Base Weather for an advisory. If thunderstorm or lightning advisory are within five (5) nautical miles of the intended explosive training area, terminate and reschedule training.

6.7.3. Coordinate explosive training with the building custodian to minimize disruptions of normal operations and preclude the exposure of explosive hazards to personnel not associated with EDD training.

6.7.4. Make a safety check of the vehicle used to transport explosives, using the AF Form 1800 as the primary checklist. Open discrepancies will be fixed, before transportation of explosives.

6.7.5. Ensure the vehicle contains proper amount of fluids, including fuel. Refueling a vehicle laden with explosives is not permitted and any other type of refueling operations must not within 100 feet of explosives.

6.7.6. Use wheel chocks while loading or unloading explosives and ensure the engine is turned off.

6.8. Canine Scent Kit.

6.8.1. Coordinate with munitions personnel concerning arrival time to get the canine scent kit and estimated time of return.

6.8.2. Carefully load the canine scent kit using cargo-tie down straps in the cargo area of the vehicle. Explosives will be packed separately from other material in a clearly identified metal or wooden container, properly secured to the cargo compartment of the vehicle body.

6.8.3. No person is allowed to ride in the cargo compartment when transporting explosives.

6.8.4. The canine scent kit will not be left unattended.

6.8.5. Placards must be placed on all sides of the vehicle, reflecting the most hazardous item being transported.

6.8.6. Upon arrival at the training location, immediately post signs and evacuate non-essential personnel.

6.8.7. Before the training aids are placed in a training area, a check of all explosive training aids will be conducted for accountability and safety.

6.8.8. Conduct training by placing the explosives a minimum of ten feet apart in areas where they can be monitored by the trainer. Use a rough draft diagram of the area, include location, type and amount of explosive. The explosive training aids will be planted for the minimum amount of time to allow scent disbursement, the EDD team will conduct training and the training aids will immediately be secured.

6.8.9. After training is conducted, the trainer and handler will conduct another check to ensure all training aids are safe and secured in the canine scent kit. The kit will be secured with a lock, by the trainer, and transported to munitions for storage.

★6.9. Emergency Actions.

6.9.1. When hazards not involving fire occur while training with 1.1 explosives, evacuate all personnel a minimum of 300 feet until the hazardous condition is mitigated/corrected. If explosives are involved in a fire, **sound the fire alarm**, evacuate all personnel to a distance of at least 445 feet, if safety permits, use available fire suppression equipment to fight the fire. If explosives are engulfed in flames, do not attempt to fight the fire. The Fire Chief will determine the appropriate safe withdrawal distance upon arrival.

6.9.2. Only when deemed safe, collect the training aids, inventory and proceed to munitions for safe storage. EOD personnel must assist to ensure aids are safe.

6.9.3. When lightning or electrical storms exist in the local area, return the canine scent kit to munitions. If lightning is within five (5) nautical miles, evacuate all personnel to a safe distance, place a 300 foot cordon around the kit and secure the kit, with your presence, no closer than 267 feet until storms have moved out of the area. Check with base weather before continuing explosives operations.

6.9.4. EDD teams should not conduct their own training. Handlers should not touch, move or allow their dog to aggress on any explosive.

6.9.5. Should aggression occur by the EDD on an explosive training aid, explosive safety personnel and EOD will be contacted if the explosive was damaged, the veterinarian will be contacted if needed and the EDD will be immediately entered into remedial training to prevent aggression on explosives.

the canine scent kit to a safe distance if possible and immediately inventory the status of the kit. If all is in order, seek a suitable vehicle to transport the canine scent kit to munitions for safe storage.



MICHAEL D. REINER, Lt Col, USAF

Commander, 88th Security Forces Squadron

Attachments

- *1. Military Working Dog Weapons Safety Checklist
- 2. Explosive Safety Checklist for Explosive Detector Dog (EDD) Training
- 3. Memorandum of Understanding/Release of Liability

Attachment 1

★ Military Working Dog Safety Inspection Checklist

AF FORM 2519, NOV 91(EF)

PREVIOUS EDITION WILL BE USED.

ALL PURPOSE CHECKLIST		PAGE 1	OF 2	
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA		OPR	DATE	
88 SFS, Military Working Dog (MWD)				
88 ABW Inspection Checklist (Ref: 88 ABW Weapon Safety Inspection Guide)		88 SFS/S3D	15 Jan 08	
NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	YES	NO	N/A
1.	Are personnel who work with explosives trained and qualified in the tasks to be performed? (Paragraph 2.2)			
2.	Do personnel understand all safety standards, requirement, and precautions that apply to their explosives operations? (Paragraph 2.2)			
3.	Are supervisors: (Paragraph 2.2)			
3a.	Knowledgeable of all hazards in an operation?			
3b.	Conveying emergency procedures to workers and visitors?			
3c.	Maintaining strict housekeeping standards?			
3d.	Knowledgeable of steps to be taken during abnormal conditions?			
4.	Are explosive operating instructions available at the work site and address: (Paragraph 2.3)			
4a.	Explosive's limits?			
4b.	Personnel limits/Exact location of the operation?			
4c.	Safety requirements/Step-by-step procedures? (T.O.s may be referenced)			
4d.	Actions to be taken during an emergency or when abnormal conditions arise?			
5.	Are explosive operating instructions coordinated with 88 ABW/SEW? (Paragraph 2.3.1)			
6.	Have explosives operations been designed to ensure compliance with the <i>Cardinal Principle of Explosives Safety</i> (expose the minimum number of people to the minimum amount of explosives for the minimum amount of time)? (Paragraph 2.5)			
7.	Do supervisors enforce personnel limits? (Paragraph 2.5)			
8.	Do supervisors enforce explosives limits? (Paragraph 2.5)			
9.	Are explosives limits (HC/D, NEW) listed in the operating instructions? (Paragraph 2.5.2)			
10.	Are personnel limits (supervisors, workers, casuals) listed in the operating instructions? (Paragraph 2.5.3)			
11.	Are explosives operations stopped when visitors (other than casuals) are present? (Paragraph 2.5.3)			
12.	Are only trained personnel permitted to be involved in explosives operations? (Paragraph 2.12)			
13.	Are explosives operations supervised by individuals who understand the hazards and risks involved? (Paragraph 2.12)			
14.	Does scheduling and selection of training sites preclude unnecessary exposure of unrelated personnel to MWD explosive hazards? (Paragraph 2.17.1)			
15.	Do operating instructions contain a documented post-training inventory of explosives samples ensuring no explosives are left on site or discarded? (Paragraph 2.17.2)			
16.	Are the Base Weapons Safety Office, Fire Department and EOD (if applicable) contacted before conducting operations? (Paragraph 2.17.3)			
17.	Do personnel in charge of explosives operations promptly notify the fire department each time there is a change in fire or hazard symbols? (Paragraph 2.18.3)			
18.	Unless otherwise directed by the fire chief, are two serviceable fire extinguishers, suitable for the hazards, available for use at any location where explosives will be handled? (Paragraph 2.22.1)			
19.	Does each explosive laden vehicle used for transport have at least two portable 2A-10BC serviceable fire extinguishers? (Paragraph 2.22.3)			
20.	Are non-essential personnel evacuated at least 300 ft from an explosives mishap not involving fire? (Paragraph 2.24.2)			

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ALL PURPOSE CHECKLIST		PAGE 2 OF 2
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA		DATE
88 SFS, Military Working Dog (MWD)		
88 ABW Inspection Checklist (Ref: 88 ABW Weapon Safety Inspection Guide)		88 SFS/S3D
NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	YES NO N/A
21.	Is table 2.1, AFMAN 91-201, used to determine withdrawal distance for non-essential personnel from an explosives mishap site involving fire? (Paragraph 2.24.2)	
22.	Are DoD fire symbols used when explosives or chemicals are not in the transportation mode (in storage or maintenance)? (Paragraph 2.25)	
23.	Are DoT placards used for transportation of explosives or chemicals? (Paragraph 2.25)	
24.	Are fire symbols and/or chemical symbols posted that apply to the most hazardous material present at non-nuclear explosives location? (Paragraph 2.25.7)	
25.	Are facility fire and chemical hazard symbols posted that reflect the most hazardous explosive on location? (Paragraph 2.25.7)	
26.	Are symbols removed if the explosives or chemical agents are removed from a facility or location? (Paragraph 2.25.7.3)	
27.	Is the FACC notified each time fire or hazard symbols are changed? (Paragraph 2.25.7.3)	
28.	Are all DoD fire symbols backed with noncombustible material in the same shape as the symbol? (Paragraph 2.25.7.4)	
29.	Do managers refrain from storing ammunition and explosives with unrelated items except as authorized in AFMAN 91-201? (Paragraph 2.26.2)	
30.	Are precautions taken to ensure munitions are not subjected to temperatures in excess of those specified in technical orders? (Paragraph 2.28.5)	
31.	Are explosives stored in approved, properly marked containers in good condition and securely closed? (Paragraph 2.29)	
32.	Are dangerously unserviceable munitions destroyed immediately or placed in isolated storage at Intermagazine distance? (Paragraph 2.31.1)	
33.	Are unserviceable munitions items, including those suspended from issue, segregated from serviceable stocks by placing them in a separate facility or segregating them physically within the same facility with serviceable stocks? (Paragraph 2.31.2)	
34.	Is each package or stack of unserviceable munitions, including those suspended from issue, marked to show its exact status? (Paragraph 2.31.3)	
35.	Are markings on unserviceable packages or stacks of munitions, including those suspended from issue, clear to prevent inadvertent issue or loss of information? (Paragraph 2.31.3)	
36.	Are all explosives operations stopped in unprotected location when lightning is in the vicinity? (Paragraph 2.56.1.1)	
37.	Are lightning warnings received? (Paragraph 2.56.1.2)	
38.	Are explosives transported only in the Cargo Compartment of a vehicle? (Paragraph 2.70)	
39.	Are explosives transported in original packs or approved wood or metal containers, including proper markings? (Paragraph 2.70.5)	
40.	Do personnel transporting explosives have seats? (Paragraph 2.70.6)	
41.	Are explosive laden vehicles properly attended? (Paragraph 2.70.7)	
42.	Are military working dog explosives HC/D 1.1 training aids transported and handled by qualified personnel in areas providing realistic and effective training? (Paragraphs 2.17 and 2.70.9)	
43.	Are vehicles transporting dog kits properly placarded? (Paragraph 2.70.9.1)	
44.	Are vehicles properly placarded with DoT placards? (Paragraph 2.71.2.1)	
45.	Are explosive loads stable and secure before movement? (Paragraph 2.71.1)	
46.	Are weather and road conditions considered before transporting explosives? (Paragraph 2.71.4.1)	
47.	Is ferrous metal in the cargo area covered when transporting munitions in other than DoT specified or equivalent containers? (Paragraph 2.74.1)	
48.	Are only static resistant and noncombustible tops or coverings used? (Paragraph 2.74.2)	
49.	Are motor vehicles inspected IAW AFMAN 91-201 paragraph 2.74.3 prior to loading explosives?	
50.	Are vehicles refueled prior to loading explosives? (Paragraph 2.74.5)	
51.	Are explosives secured in a manner to prevent movement and damage by the restraining devices? (Paragraph 2.74.6)	
52.	Are engines shut off during loading or unloading except as specified in AFMAN 91-201 paragraph 2.74.11?	

Attachment 2

Explosive Safety Checklist For Explosive Detector Dog (EDD) Training Checklist

ALL PURPOSE CHECKLIST		PAGE 1	OF 2	
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA		OPR	DATE	
88 SFS, Military Working Dog (MWD) Explosive Safety Checklist For Explosive Detector Dog (EDD) Training		88 SFS/S3D	15 Jan 08	
NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	YES	NO	N/A
PRIOR TO TRAINING				
1.	Has the Explosive Detector Dog trainer contacted the building custodian, prior to training?			
2.	Has base weather been contacted prior to pulling items from the canine scent kit, and verification that no lightning storms are within five (5) nautical miles? (7-7779)			
3.	Has the Fire Department been contacted with notification of training, items, location, and times? (7-3033)			
4.	Has the Security Forces Control Center (SFCC) been contacted with notification of training, items, location, and times? (7-6516)			
5.	Has the ASC/SEW been contacted with notification of training, items, location, and times? (4-0487)			
6.	Have munitions personnel coordinated pick-up of the canine scent kit from the storage area? (7-7510)			
TRANSPORTATION				
7.	Was the vehicle checked out using the AF Form 1800. Are explosives able to be safely transported?			
8.	Is there enough gas in the tank to provide transport to and from the site without unauthorized refueling?			
9.	Is the transport vehicle marked correctly, explosive signs on the front, back and both sides?			
9a.	Were explosive signs removed immediately upon removal of explosives from the vehicle?			
10.	Did two personnel inventory the kit, and count each explosive item immediately after it was unlocked? <div style="display: flex; justify-content: space-between;"> <div>-- ___ water gelatin explosive</div> <div>-- ___ ammonia dynamite</div> </div> <div style="display: flex; justify-content: space-between;"> <div>-- ___ smokeless powder</div> <div>-- ___ nitroglycerin dynamite</div> </div> <div style="display: flex; justify-content: space-between;"> <div>-- ___ blocks of C-4</div> <div>-- ___ TNT</div> </div> <div style="display: flex; justify-content: space-between;"> <div>-- ___ detonation cord</div> <div></div> </div>			
11.	Have the minimum amount of explosives been taken out to provide training?			
12.	Was a tire chock used while loading explosives and securing them on the vehicle?			
13.	Was the route chosen to the training site the most direct route, without entering housing or other high traffic areas?			
TRAINING AREA				
14.	Are personnel not involved in training, evacuated to a distance of 100 feet?			
15.	Is smoking and flame producing material prohibited within 50 feet of the explosive training area?			
16.	Are proper fire symbols posted on all major vehicle avenues to the training area?			
17.	Are explosive training signs posted around the facility?			
18.	Have the training aids, and the area been inspected for safety by the trainer, prior to placing the explosives?			
19.	Have explosives been prohibited from being placed near heat, flame, or electrical source?			
20.	Have personnel placing nitroglycerin or ammonia dynamite worn protective gloves?			
21.	Are seven pounds or less, net explosive weight used for each training scenario?			
22.	Have explosives been placed for the minimum amount of time, to provide maximum scent dispersal and explosive training?			

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ALL PURPOSE CHECKLIST		PAGE 2 OF 2
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA		DATE
88 SFS, Military Working Dog (MWD) Explosive Safety Checklist For Explosive Detector Dog (EDD) Training		15 Jan 08
NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	YES NO N/A
23.	Were explosives checked for accountability and safety upon completion of training?	
24.	Were individual explosives placed or hidden at least 10 feet apart?	
PRIOR TO TRAINING AREA DEPARTURE		
25.	Did two personnel count each explosive training aid for accountability and safety, prior to placing the lock on the canine scent kit? -- ___ water gelatin explosive -- ___ ammonia dynamite -- ___ smokeless powder -- ___ nitroglycerin dynamite -- ___ blocks of C-4 -- ___ TNT -- ___ detonation cord	
26.	Was the building manager contacted upon completion of training?	
27.	Was 88 ABW/SEW notified of termination of training?	
28.	Was the SFCC notified of termination of training?	
29.	Was the Fire Department notified of termination of training?	
30.	Were signs picked-up from around the facility and major vehicle avenues of approach?	
DEPARTURE AND TERMINATION		
31.	Was a tire chock used while explosives were secured on the vehicle?	
32.	Was the vehicle properly placarded?	
33.	Were explosives safely transported to the munitions storage bunker?	
34.	Did munitions courtesy store and secure the canine scent kit properly?	

Attachment 3

Memorandum of Understanding/Release of Liability

MEMORANDUM OF UNDERSTANDING/RELEASE OF LIABILITY
BETWEEN
REQUESTING CIVILIAN LAW ENFORCEMENT AGENCY
AND
WRIGHT-PATTERSON AFB, OH.

The 88 ABW Commander has authorized an EDD team to be used by your civilian law enforcement agency for this one time emergency support. There are serious consequences when using the United States military to enforce civilian law; therefore, the following excerpts are provided for your basic understanding on the limitations of our assistance provided to you.

- IAW AFI 10-801, *Assistance to Civilian Law Enforcement Agencies*, Chapter 2.1., "Air Force personnel may not actively participate in or perform activities that would violate the Posse Comitatus Act, United States Code (18 U.S.C. 1385), use of the Army and Air Force as Posse Comitatus, and 10 U.S.C. 18 Military Support for Civilian Law Enforcement Agencies."

-- Chapter 2.2 states: "Restrictions on assistance provided to Law Enforcement Agencies differ based on type of support requested. Explosive Detector Dog (EDD) teams, see DoD Directive 5525.5 and AFI 31-202, 10.2. Obtain guidance for MWD teams from HQ Air Force SF Agency, Lackland AFB, TX. Mr. Bob Dameworth, DSN 473-0893."

- AFI 31-202, *Military Working Dog Program*, Chapter 10.2.2. Process requests for EDD support through AFSPA/SPL to the Office of the Secretary of Defense, Executive Secretariat (OSD/ES), before committing resources. The requesting agency will submit a letter to OSD/ES explaining the reason for support and how they will reimburse the tasked unit. Once approved by OSD/ES HQ AFSPA will contact the closest DoD unit for support, if their mission allows it. **There are exceptions however. If no civilian resources are available, the installation commander may provide EDD teams if immediate action is required to protect life and property.**

-- Chapter 10.2.4. No one else may handle the dog. The dog and handler will perform searches. Give the handler exclusive control over the detection support effort and complete access to the search area. Ensure the handler performs the sole task of working their dog without taking part in any other activities to help in a search, unless specifically designated to do so by the search authorization authority. Use only the dog's drug or explosive detection capability. The dog team will not be used to track persons, seize evidence, search buildings or areas for personnel, or to pursue, attack, hold, or in any way help in apprehending or arresting persons, except on Federal exclusive property. Do not use the team to search persons. Provide a representative to stay with the team at all times when it is working. If the dog responds, the handler will advise the representative and withdraw or continue other disassociated detection support. Handlers will not touch or seize evidence. The handler will not disarm, move or further inspect any suspected explosive device. The handler will neither accept responsibility for any damages, nor assist in setting up or maintaining a chain of custody, or engage in any other activities to enforce the law in connection with this service. If necessary, the handler may testify in court. The testimony must be limited to explaining EDD team training received, the past success rates of the dog, events leading to employment in this particular detection support, and the results of the detection support.

CIVILIAN L. E. REPRESENTATIVE
(Print, Sign, Title and Date)

MWD HANDLER/K-9
(Print, Sign and Date)

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